

# SUPPLEMENT.

## The Mining Journal, RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[The MINING JOURNAL is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.]

No. 2449.—VOL. LII.

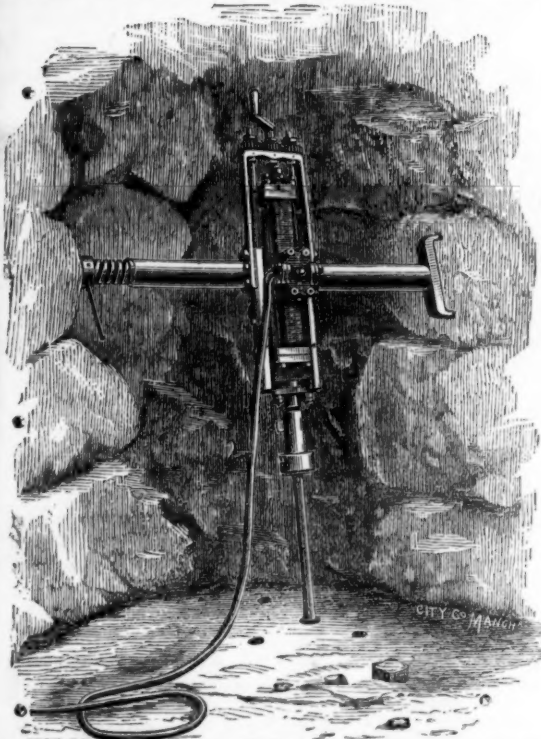
LONDON, SATURDAY, JULY 29, 1882.

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McCULLOCH AND HOLMAN'S  
PATENT

### "GORNISH" ROCK DRILL.

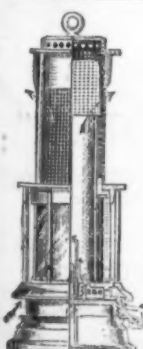


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- 1873—Ditto.
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Normandy Rock Drill and Air Compressor, bored	1 1/4 x 10 1/2	2 10
Eclipse Rock Drill and Reliance Air Compressor	1 1/2 x 10 1/2	2 25
Beaumont Rock Drill and Sturgeon's Trunk Air Compressor	1 1/2 x 7 1/2	2 30

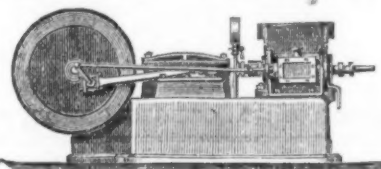
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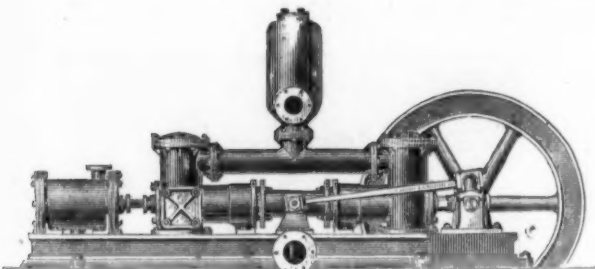
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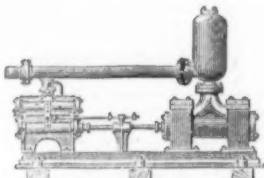


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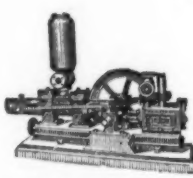
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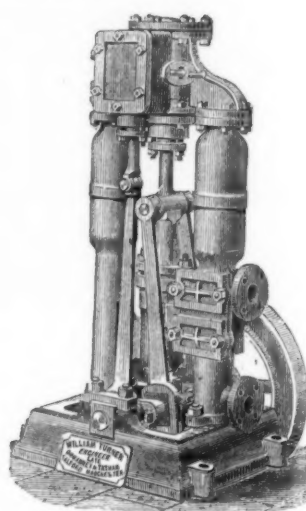
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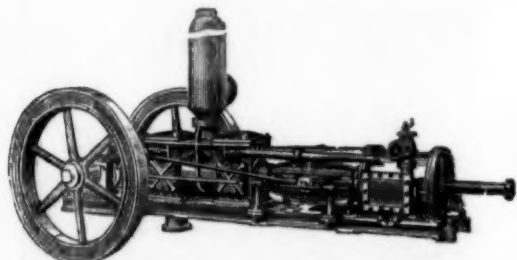
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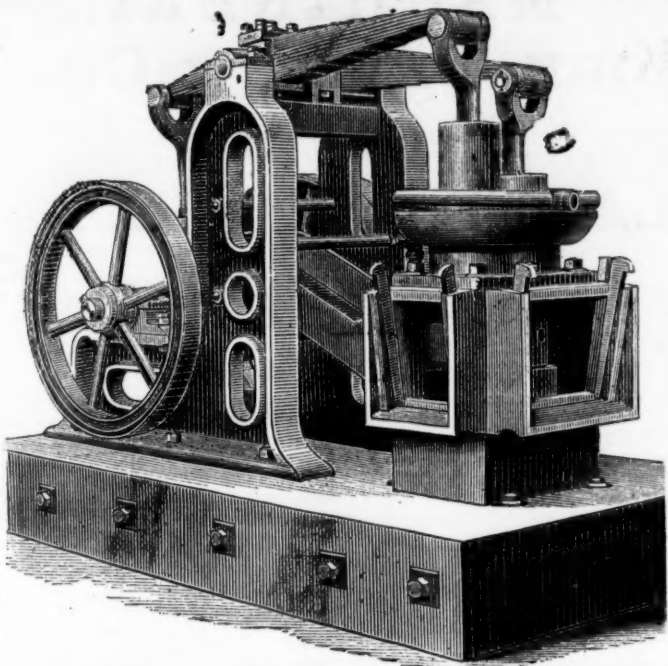
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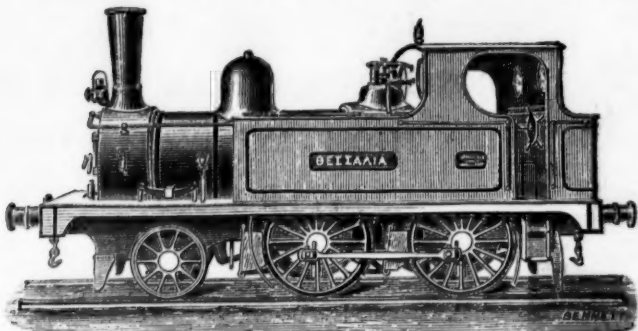
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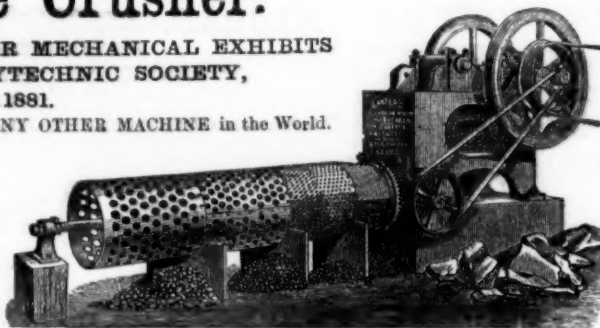
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#### FRONTINO AND BOLIVIA GOLD MINING COMPANY.

SIR,—Although the shareholders attending the recent meeting were unwilling to hear me a second time, I feel no lack of interest in the affairs of the Frontino and Bolivia Gold Mining Company, for I consider the time will come when they will admit that I have had no interest reserved but what was theirs, and no motive for any part I have taken but the good of the company. It was a disappointment to me not to be present during the whole of Mr. White's explanations, but still I heard sufficient, and some things I failed to hear, because all reference to them was omitted, and I am satisfied that there are important questions as to which the shareholders are still kept in the dark. I suppose the directors and Mr. White and the two or three larger shareholders attending the last meeting, one of whom, by the way, sends a telegram to support the Chairman when he cannot attend personally, will now admit that henceforth no income is to be spent on capital account; but it will be remembered, or must be admitted, that 18 months or two years ago a similar assurance was given by the Chairman, and special authority was then taken by the board to pay dividends quarterly, yet only one such dividend has been paid, and I caution the shareholders against their fancying that more reliance can be placed in the Chairman's promise now than then. Of course it is desirable to have the assurance of the directors and Mr. White, and I only wish I could place more hope on it. I am frank enough to confess that I do not believe in Mr. Foakes, nor can I, in the face of mis-statements on his part, or for which I consider him responsible, believe that the future of this mine will differ from the past so long as he remains in the position of Chairman (director). I have no personal feeling against him, for, apart from this mine, I have not had the remotest connection with him; but I regard the part he has played as wholly discrediting him to any support from me—in fact, I cannot trust him. That he is ingenious is undeniable, and how long he will manage to retain his present office will more or less depend upon how long the shareholders will abstain from a more searching enquiry into matters affecting their interests. It is universally admitted to be a difficult matter to convince shareholders that it is incumbent upon them to alter the state of things in which they find the affairs of any company placed. They invariably allow matters to proceed very much as it pleases the board of management, until some startling disclosure is forced upon them, and then they wonder to themselves how such things can happen.

Mr. Foakes has been connected with mining enterprise for a period long enough to make him somewhat well known to many though not to all. Can he give a satisfactory account of the following companies:—The Mysore Reefs Gold Mining Company, the Haven Gold Mining Company, the Silver Peak, the Lady Bertha, and the Limosna. Did those companies prosper under his guidance? Now, as to the Frontino. The last account issued by his board set out a sum of 8758*l.* 14*s.* 6*d.* as cash at the mines, yet it turns out there was no such sum. The account sent home from the mines by Mr. White did not show any such item, and when after it had been discovered by Mr. Sutherland and myself on attending at the company's office that no such sum existed, and the matter was at the recent meeting spoken of, the Chairman admitted the amounts to be wrong, but coolly told the shareholders it was an auditors' question. So that the directors issue a report and accounts to the shareholders setting out that the profits for the half-year amounted to 9646*l.* 17*s.* 10*d.*, and that there is cash at the mines to the amount of 8758*l.*, besides other moneys in the hands of the agents, and after getting the shareholders to adopt the accounts it turns out that there was not any such sum. Now, if the accounts are wrong in so important a matter as that, the question naturally arises are they wrong in any other respects? Will the shareholders rest content with such accounts? True it is that Mr. Foakes when called on to explain says the sum is treated as so much cash, for the manager has it to carry on with, and to provide the stores for the men, &c.; but Mr. White had rendered his account to the directors, in which he put out the detail showing that the money had been spent, and that there was only about 1000*l.* cash at the mines, and there was no sound reason for the directors putting it in a different way before the shareholders. Virtually Mr. Foakes has admitted this, for he at the last meeting told the shareholders that in future the item in question should be accompanied by the explanation received from Mr. White. But what is the good of a principle of action of this sort? Is it to be left to me or other shareholders from time to time to conduct a personal enquiry into the accounts, and then on flagrant errors being discovered for the Chairman to rise up and say, "Gentlemen, in future it shall be altered;" "It shall not occur again;" or "The next time we will give such and such an explanation." The acquisition of the Cordoba and Garibaldi Mines is again a matter to which I advise the shareholders to give a little attention. These two mines together cost 8000*l.*—thus Cordoba 4800*l.* and Garibaldi 3200*l.*

The directors' accounts for the half-year ending June, 1881, contain items of 800*l.* and 500*l.* as deposits paid in respect of these purchases, and those for the following half-year show that 6000*l.* was borrowed in order to complete the purchases, while 2000*l.* was paid as commission on the purchases and to cover expenses incident to the purchase and for the loan. Now observe, I asked Mr. Foakes at the recent meeting of whom the mines were purchased, and he replied he did not know. Yet the company's books disclose the following facts. That in respect of Garibaldi's Mines three bills of exchange were drawn by Mr. White upon Mr. Foakes for 1000*l.*, 1000*l.*, and 1000*l.*, making together 3000*l.*, whilst the total purchase money for that mine was only 3200*l.*, and the three bills for 1000*l.* all fell due in the December half-year, and were paid, while the 5000*l.* was paid in the previous half-year, so that if they, with the 1300*l.* deposits paid in the previous half-year, making together 4800*l.*, be deducted from the 8000*l.*, there is but a balance of 3200*l.*, yet the accounts represent 6000*l.* as having been borrowed. But that is not all, for in respect of Cordoba Mine the company's books show that 2000*l.* was not paid till January of this year, and 2000*l.* not till the present month of July, so that deducting these sums (together 4000*l.*) from the 8000*l.*, only 4000*l.* remains that could have been paid prior to December last, so that the 6000*l.* charged in that half-year as having been borrowed in order to carry out the purchases cannot by any possibility be correct. Yet the shareholders pass the accounts. All the bills in respect of the two purchases are drawn upon Mr. Foakes (not upon the company), and are accepted by him, and yet he could not say of whom the mines were purchased, and the secretary told me recently that the mines had been conveyed not to the company but to Mr. White. That shareholders should be content with all this is amazing. I do not ask, nor do I wish them to be content with my statements. I sincerely wish they would enquire and satisfy themselves of the facts. The Chairman was good enough to ask why I addressed my letters to the Journal, alleging that they could not benefit but must injure the company. I take issue with him there. I believe the company's properties furnish one of the finest mining enterprises known. Mr. Foakes himself has said so in the most emphatic language, and no discussion of its affairs can alter



that fact, whilst in my judgment the more thoroughly the interests of the company are discussed the better it will be for the shareholders. I and my friends hold nearly 1000 shares; whilst the gentlemen who have supported us hold upwards of 12,000. Our wish is to see those shares command the position to which we think they are entitled. Does anyone imagine that we desire to see our property depreciated? By your kindness I avail myself of the Journal to put before the shareholders facts which I think require their attention. It is open for Mr. Foakes to do the same, and moreover he has this advantage, that he can without any expense to himself, but at the cost of the company, address them by circular. Let him take his choice, and by whichever course he prefers I invite him, if you will allow me to do so, to deal with the three matters to which I have drawn attention—the 8758*l.* 14*s.* 6*d.* cash at the mine, and the purchase of the Cordoba and Garibaldi Mines. They are important, and deserve attention. Your contemporary says let bygones be bygones. With my experience of the Chairman's promises, and in the face of the unsatisfactory phase of things affecting the mine I cannot assent to that policy. With a divided board and dissatisfied shareholders matters cannot be regarded with ease or complacency, and until the board of the Frontino and Bolivia Gold Mining Company be remodelled its shareholders will, in my opinion, be sanguine men if they really expect better things in the future than they have had in the past.—*Sergeant's Inn, Fleet-street, July 27.* S. S. SEAL.

## MINING AND SMELTING IN COLORADO.

SIR,—The bullion shipments from the smelters of this camp for the second quarter, although not quite so large as the return for the first three months of the year, show a large output of ore, and for the half-year exceed the same period of 1881 by \$1,258,743.

Summary for the three months ended June 30:—

Grant Smelting Company .....	\$ 512,403
Eddy, James, and Co. ....	414,200
La Plata Mining and Smelting Company ...	478,215
Harrison Reduction Works .....	397,495
Cummings and Finn .....	458,710
Arkansas Valley Smelter .....	796,776
Robert E. Lee Mine .....	221,535
American Smelter .....	204,123
Taylor and Brunton .....	150,000
Tabor Mill .....	85,052
Other Mills .....	25,005

Total..... \$ 3,743,514

Summary, six months ending June 30, 1882 \$ 7,778,000  
Ditto ditto June 30, 1881 6,519,257

Increase, 1882..... \$ 1,258,743

The destruction of the Grant Smelter in May last has had no serious effect upon the mineral output of the camp. The company still have a sampling works here for the purchase of ores, and have now on hand, ready for shipment to their new smelter, upwards of 8000 tons.

During the past week they have leased the Elgin Smelter, in the north part of the city, and will soon commence operations, but the principal works now under construction will be in Denver, which will still depend upon this camp for the mineral supply. All the mines are giving employment to the usual number of men, and the daily output aggregate 1000 tons. J. FITZ BRIND.  
*Leadville, Col., July 8.*

## CAPE COPPER MINING COMPANY.

SIR,—In the whole course of a long and varied experience in dissecting balance sheets of mining companies I have never seen anything at all approaching the soundness of that of this company. Well may the Chairman have said that there was no further need of placing large sums to sinking funds, &c., for the capital, 140,000*l.*, and sinking funds, 169,000*l.* = 309,000*l.*, already more than cover the whole cost of the undertaking; mines, railway, smelting works, machinery, and plant, in all amounting to 304,000*l.*, and with the reserve of 50,000*l.* there is actually an excess to the good of 55,000*l.*, and not a single debenture out. For the year 1881 a dividend of 100,000*l.*, or 5*l.* per share, was earned at 13*s.* the unit, with 31,000*l.* over. Cape ores are worth to-day over 13*s.* It seems, therefore, tolerably clear that, in the words of the Chairman, admitting no necessity to add to sinking funds, the dividend for the current year must be at least 6*l.*, with 10,000*l.* or 15,000*l.* over; indeed, a slight rise in copper or increase in output might make the dividend 7*l.* Were further addition made to sinking funds it would be establishing a sinking fund for capital, a very unusual proceeding.  
*July 27.* ACCOUNTANT.

## THE TRANSVAAL GOLD FIELDS.

SIR,—In last week's Journal I notice some remarks respecting the doings on the Transvaal gold fields, mentioning especially Mr. White's claim. Having left the said claims on May 20, I may mention that up to that date the fields there were doing very well under the new rules, and some splendid finds have been made, the best of which was on Mr. K. C. White's Spitz Kop Farm, where 125 ozs. of pure gold was found in one week's washing. The only drawback at that time was the want of Kaffir labour, as the Boers were driving all Tonga Shangan Kaffirs back to their country, fearing they would join the other tribes in the present fights. All Englishmen there were being commandeered either in person or cash; but no works were stopped except of the diggers' own accord, when they received their compensation from the concessionists. I have not seen Mr. White since my return to England, and only write this in justice to the fields.—*Crouch End, July 26.* JOHN H. WALKER.

## THE CHONTALES MINING COMPANY.

SIR,—In the Journal of Saturday next will appear an account of the meeting of the Chontales Company, which many shareholders will be anxious to read. Since the new company has been formed the information given to the shareholders has been very limited, and many who have an interest are entirely ignorant as to what has been done or what is intended to be done. I must confess that I was taken by surprise a few days since when I made a journey to London for the purpose of obtaining what information I could. I was allowed to see Mr. White, the manager's, letters, in one he stated he had been to Ingolpa to consult the legal authority with 50 deeds belonging to the company of a piece of land comprising 2200 acres, and the motive for going was that the Americans have serious thoughts of having their own ship canal, and provided the scheme is carried out our land would be purchased by them, or as much of it as would form part of the canal. I also elicited in connection with the Consuelo Mine that there had been 1000 yards denounced which would be in an easterly direction, giving a large amount of backs available when the old workings are reached; last month 23 ft. were driven in 31 days; the rock driven through is stated to be hard, and from enquiry I found up to April last 260 yards had been driven (a vara being nearly an English yard), and from that date there remained about a third more to be driven before reaching the old workings. I made enquiries if any of the rock-drills were made use of—my reply was there was not. I wrote to Mr. J. G. Cranston, of Newcastle-on-Tyne, for particulars of the Cranston rock-drill. I find a testimonial from the Eberhardt and Aurora Mining Company, in which they speak of a tunnel 7 ft. by 9 ft. that with two drills they were driving 50 ft. per week; the most expensive drill is 100*l.*, the accessories they do not state. What are the probable prices? When we look upon the amount of capital that has been expended in furnishing pneumatic stamps, Wheeler pans, &c., 1000*l.* paid for the visit of a gentleman for a few days; and on the other hand the value of such an acquisition of such a drill as the Cranston rock-drill, which facilitates the operations and save thousands of pounds, has not been provided. As shareholders we look to a directorate who manage and are paid for their services to have gentlemen who have a practical knowledge of the duties they undertake. We have paid to the old and new companies the directors somewhere about 3000*l.*, and our secretary about 3000*l.*, and what benefit have we had for their services? I did not attend the meeting of Tuesday, as I look upon it as a

waste of time and money, after my experience of attending nearly every meeting for 10 years, and could wish that a photographic artist had been present at the last 12 meetings I attended; the picture would have contained about 15 individuals, and as a shareholder could have taken observations of votes given, whether they were in favour of the directors or otherwise, from the time taken in driving the remainder of the level, if the same expense as is now being incurred, I ask the question will the remaining money to be called up, with 1031*l.* that Mr. White says he has in his May account, will that be spent? If the shareholders were to call an extraordinary meeting, and remove the present staff, it might not be too late. Since the new company has been formed I do not recollect a single account sent, and the company has been formed years, that we have had a profit returned. Other managers when the falling off in their returns took place were not allowed to remain and do as they liked. What shareholders are anxious to know is, whether the money that is now being subscribed by the shareholders is it to be for their advantage, for some future company, or for a few individuals. Shareholders look to the Chairman (Lord Nelson); their confidence has been in the statements he has made from time to time, and have invested their money on the faith that he will see that no undue advantage is taken.  
*Bristol, July 26.* WILLIAM BALL PALMER.

## THE ALMADA SILVER MINE.

SIR,—Allow me to direct the attention of investors to this company. Two years ago, when the mine was losing money and was not increasing its reserves, the shares were higher than they are now, when it is admitted by everyone that the mine is earning large profits, that a full year's reserves of ore are laid open and are being added to daily, that the silver duty is repealed, and the output the largest of any silver mine owned by Europeans except Richmond. About a year ago great improvements were begun in the machinery and treatment of the ores, and the reduction works (now the largest and most complete in Mexico) having been extended, a profit for the half-year ending Dec. 31, was made of 2247*l.*, against a loss of 98*l.* for the former half-year, and for the first five months (to May 31) of this year the profits (net) are no less than 8900*l.*, each month averaging just 1800*l.* This is not caused by any rich finds, but by steady work on the ordinary ores of the company. A much larger quantity of stuff is now treated at very nearly the former costs, with the result of a much larger profit being earned, the present average daily treatment of leaching ores being fully 40 tons, treated at nearly the same cost as 25 tons were formerly dealt with. As the company has some thousands of pounds in hand I fully expect a dividend (10 per cent. probably) in November, and as there are large reserves in sight and the property is very extensive and but partially opened up, a long career of prosperity seems to await the mine. The 1*l.* shares, now at 12*s.*, will certainly stand at par, if not at a premium, by November, and are the cheapest and safest in the market whenever they are offered, which is seldom. OLD SHAREHOLDER.  
*July 26.*

## VALUATION OF MINES—THE BELT COPPER MINE.

SIR,—A correspondence having taken place some time since in the *Mining Journal* I should be glad to elicit the opinion of some skilled but disinterested expert as to the intrinsic value of the Belt Copper Mines. The prospectus of the company states that the mines, the Great Western, Bohemian, and Penn Mines, consist of 3272 acres of land, freehold and unencumbered, and cover an extent of over four miles on the great Lake Superior Native Copper Belt, in Ontonagon county, Michigan. I may observe here that the Penn Mine, part of this property, must not be confounded with the Penn Mine of Keweenaw county, 65 miles distant. It appears from the letter of Mr. White, of the Quincy Mine, which accompanies the prospectus, that "at an early date in the history of this district work was done upon the above amygdaloid trap Belt with very great promise, but lack of facilities and the excessive cost discouraged the promoters, and all mining was suspended."

The Great Western and Bohemian Mines are purchased as a going concern, and extensive surface developments have been carried out, and the mines are opened by numerous shafts and levels, the extraction and treatment of the ore awaiting merely the erection of modern machinery and appliances. No results of any assays are given, but Mr. Rathbone in his report says—"After a careful examination of your ore, and comparing it with the produce of neighbouring mines, I am of opinion that 2 per cent. of copper is a very moderate estimate of its richness." The estimated net income from the Great Western and Bohemian Mines, 64,000*l.*, is based on an output of 200,000 tons of ore, yielding only 2 per cent. of copper at 18 cents per lb., and the expenses are put at \$4 per ton of ore. . . . A yield of 1-1-9 per cent. is necessary to pay expenses. R. M.  
*Altrincham, July 25.*

## THE WEST COAST (AFRICAN) GOLD DEPOSITS.

SIR,—Some observations on the value of the Gold Coast auriferous deposits, and the practicability of working them, addressed to the Natal Mercantile Advertiser, will be of equal interest to many readers of the *Mining Journal*. They refer to a telegram published here to-day, in which it is stated—"Captain Burton and Commander Cameron have returned from the West Coast of Africa, and say they are convinced about the coast being a second California, the whole country being impregnated with gold." I resided on the West Coast of Africa, in the Rights of Benin and Biafra and on the Gold Coast for some years, and can quite endorse the fact of there being gold and gold dust, as I have seen, both at Wydah, Accra, and Little Popo, and many other ports, but then the climate is so deadly to Europeans that it is fatal work for them to attempt to dig for gold, or in any way to be exposed to the climate either as overseers or diggers. Whilst I was at Little Popo, in 1877, a good sized cutter arrived. She belonged to some 13 Australian gold diggers, who called upon me as the nearest British official to obtain information before going on a prospecting excursion. I gave them every assistance in my power, and at the same time warned them of the fatal effects of exposure to the hot sun and malaria. They only laughed at my warning. In the meanwhile I was called away on duty elsewhere, and after six weeks returned to Little Popo. I then heard that all the party were dead from fever except one, and I proceeded to try to find him. In a native village about 15 miles from the coast I found the survivor down with fever. He gave me letters and documents belonging to his late companions, and at his request I wrote a few lines for him before he died (which he did in a few hours after I arrived). I mention this in order that should anyone meditate going to the West Coast El Dorado they may think twice before going. I wonder that old travellers like Captain Burton and Commander Cameron should spread such a report without also explaining fully the dangers to be faced, and also that no white man can possibly work or be exposed to the climatic malaria prevalent on all the West Coast of Africa. I could not see an announcement such as that before mentioned without explaining the deadly dangers of the West Coast of Africa, and think I should not be doing my duty towards my fellow men of all ranks if I failed to point out the fatal drawback to all European enterprise on that deadly shore, so properly called "White Man's Grave." HENRY CHASTER TAIT.  
*Durban, June 17.*

## CANADA COPPER AND SULPHUR MINE.

SIR,—Can any of your readers give me some reliable information about this mine? The shares are 4*l.* paid, and now stand at 22*s.*, nearly 70 per cent. discount. The reports from the manager are most unsatisfactory; the same report, copied, may serve for months. Managers, as a rule, who have good news to communicate, are not slow in doing so; but as we get no good news I think it is now time the shareholders took some action in the matter, and shall be glad to hear others are of the same opinion. A SHAREHOLDER.

## SHROPSHIRE LEAD MINES.

SIR,—Tankerville Consols is looking better at Potter's Pit and Pennerley, and as we have said before they have a very large track of mineral ground, including the range of good mines. Bog Mine, as all know, is very heavy to unwater, but once the mine is

forked the feed is not so much; about four strokes per minute will keep it in fork. This mine will pay for lead and blende raised by tributaries, and when the rich run in the bottom of the mine is got into a workable shape a splendid profit may be looked for. I see the three mines sell 100 tons of lead ore for the month and the usual quantity of blende. It takes longer very often to open a large concern like this than some shareholders like to wait, and so they get out of patience, but I hope this will not be the case with any in this company. A SHROPSHIRE MINER.

## DOLCOATH MINE MEETING.

SIR,—Reporters we always appreciate at mine meetings, for they tell us in print things we often fail to hear at the meetings themselves. But they do not and cannot report everything. A discussion took place at the meeting of Dolcoath adventurers on Monday last with regard to the policy of crediting tin, 40 tons—worth nearly 2500*l.*—not yet sold. I think there can be but one opinion on this point by every honourable man, and that it is a most unwise policy, for a lot of thoughtless and greedy adventurers will seize on the opportunity to extort the uttermost farthing in the way of dividend, when all prudent and sound financiers must know by long experience that great evils result therefrom. Now, I will take the committee of Dolcoath Mine themselves. Is there one of them who would for one moment dream of conducting his own business in the way they conduct the business of Dolcoath Mine. Take first Mr. George Williams, the wealthy landowner, the rich banker, the large tin smelter, the owner of all the wharves at Portreath, where Dolcoath gets nearly all its coal from—Dolcoath pays him for coal alone near upon 7000*l.* a year—I ask, would Mr. George Williams, for the purpose of making up his own accounts, credit in his books goods not sold, and then forthwith, on the strength of such credit, borrow money from his bankers to pay a dividend? He would scout the idea. Would Capt. Rabling, the rich Mexican merchant, do so? I know unhesitatingly he would not. Would Mr. M. G. Pearce, the largest shareholder in Dolcoath, do it? I am sure he would not. Would the Rev. W. W. Butlin do so? His answer would be—"Mr. George Williams, and the other members of the committee, know so much better than I do about such matters that I should not venture to express an opinion against others. But in my own affairs, I disapprove in the strongest way of borrowing money to pay dividends. As to Capt. Josiah Thomas—one of the kindest and gentlest, and best of men—I can answer for him that he hates and detests anything approaching to deception of any kind or description whatsoever. I say this, that—

1.—Crediting tin not sold is contrary to all business principles, and should never be resorted to.

2.—That to keep in a statement of accounts, "assets," or "credits," or whatever they may be called by Mr. Pike, the auditor, or by Mr. Heard, the adventurer, or anything that will not bear the light, is unworthy of all honourable Cornishmen

3.—And lastly, that to borrow money from bankers or others to pay dividends, and then to have to pay hundreds and hundreds of pounds every year in the way of "interest and commission" cannot be justified.

But those who speak out their minds at mine accounts are sure to suffer for it. To use a phrase, "they get sat upon." If a merchant, tradesman, or broker, says anything else but smooth sayings he becomes "a marked man." Anything that can be withheld from him in the way of orders or information is withheld—he is "left out in the cold." I assert this from dearly-bought experience. Some years ago I used to speak out, but I have not of late—I have found it did not pay. In the words of the Scriptures, "I held my tongue and spoke no thing, but it was pain and grief to me." It was hard work, but I mostly succeeded. At Dolcoath, on Monday, Capt. Josiah Thomas, in the course of his remarks, did not fail to speak a bit of his mind, and smote some of the faultfinders on the cheek by quoting for the edification of his hearers two lines of a familiar nursery rhyme—

"Let dogs delight to bark and bite,  
For 'tis their nature so."

which was received with loud laughter. But those who utter the words of truth, soberness, and justice need not be dismayed by even Capt. Josiah's satire, good man as we all acknowledge him to be. The question will be asked in cooler, calmer, and more thoughtful moments—Was Mr. So-and-so right or wrong? Did he speak the words of truth and soberness, or did he not? If an unprejudiced judge and jury of thoughtful, educated, right-minded Englishmen were empanelled what would their verdict be? I do not doubt it for one moment.

Later on in the meeting one of the speakers said that Capt. Josiah Thomas had no doubt unintentionally misquoted the nursery rhyme; it should have run—

"Let dogs delight to bark and bite,  
For God hath made them so."

And, perhaps, it be well sometimes even at mine meetings to look on both sides of the question. "Look on this picture, and on that." Let the readers of the Journal judge. On the one side we have incorrect or misleading statements of accounts, misrepresentations, part of the truth kept back, doubts and misgivings; and, on the other, true and faithful statements of accounts, everything as clear as noon-day, proper audits, confidence, all that an honourable Englishman of business could desire.

I know full well that the atmosphere of a mine account-house is sometimes not all that could be desired. There are men always ready to praise and flatter, expecting that they may benefit therefrom. Agents and their friends, bankers and their powerful supporters, merchants and their friends, mine sharebrokers and their kidney, small tradesmen and their followers, carriers, shipowners, adventurers, and such like, make up an agglomeration of interests that few care openly to differ from, much less to assail.

AN ADVENTURER.

## DOLCOATH ACCOUNTS.

SIR,—Is Dolcoath 20,000*l.* in debt? This question has been asked on several occasions since the meeting held on May 1. According to the statement of accounts then issued I gather the following figures. Under assets and liabilities I find as a credit the following large items:—

Tutwork and wages...	£5380	0	10
Adventurers' charges .....	1364	15	8
Mr. Daering .....	90	0	0
Bills receivable.....	2330	0	0

Total ..... £9164 16 6

The first two items I judge to be really nothing more or less than an accumulation of subsist and wages advanced to the miners from the starting of the mine down to the present time, and can be nothing more than a bad debt, and should certainly be charged regularly at every meeting till wiped out, so as to no longer figure as a fictitious credit; also the old debt from Mr. Daering, who left his materials behind in lieu of payment, when he left the mine some 10 years since. Bills receivable will represent a credit of 40 tons of tin not delivered to the smelters at the date of last meeting. Merchants' bills next strike my notice. It is the custom in this mine to pay these by 90 days drafts three months after they are passed at each 12 weekly meeting. Consequently a merchant does not get his cash until six months after the bill is charged, which will fall due in the week following the third meeting. The mine, therefore, owed at the 1st of May meeting nine months' bills which had been charged, except about 4000*l.* which had probably been paid by cheque or cash as bills payable, amounting to ..... £3,800 0 8  
Due to merchants..... 6,752 9 4

Making unpaid merchants' bills.....	£10,552	10	0
November 14, bills were.....	£4,969	3	11
February 6, do. ....	4,915	0	4
May 1, do. ....	4,817	1	7
	£14,701	5	10
Probably paid by cheque .....	4,148	15	10

Due in cash ..... £10,552 10 0  
We have then to consider there are probably six months' merchants' bills not charged down to present date (say) in round num-



bers 3000l. There is also two months' money in hand to the miners, as the pay charged on April 8 pays the men only up to March 11 last. The pay falling due, therefore, on May 6, which pays the men to April 8, ought certainly to be charged also. This amounts to over 3000l., and still leaves one month's money in hand to the men unchanged. We have therefore the astonishing totals of bad assets—

Due to merchants charged, but not paid in cash	£9,164 16 6
Due to merchants, not charged up	10,552 10 0
One month's labour cost	9,000 0 0
	3,000 0 0

Total ..... £31,717 6 6  
against which there is a credit balance in the last statement issued after payment of the dividend of 1145l. 11s. 8d., leaving a balance against the mine of 30,571l. 14s. 10d. We have then remaining the following items in assets and liabilities:—

Credit balance at bank	£12,434 17 5
Cash	237 8 6
Club	466 17 1
Copper ore	19 2 4
Arsenic	10 0 1

Total	£13,168 5 5
and on other side of the account—	
Dividend to pay	£ 8,592 0 0
Cr. balance	1,145 11 8
Doctor	216 5 6
Dues	1,826 14 9
	£11,780 11 11
Balance	1,387 13 6

Total ..... £13,168 5 5  
which shows a balance remaining of 1387l. 13s. 6d. to provide and meet the total debts of 30,571l. 14s. 10d.

It will readily be seen the merchants are consequently made the bankers of the company. These figures need no comment of mine. How great is the pity the executive have not seen fit, instead of passing excessive dividends, to have gradually placed this our richest mine on a sounder financial footing. ADVENTURER.

#### COOK'S KITCHEN FINANCES.

SIR,—Perhaps a few remarks on the statement of account just issued from Cook's Kitchen Mine may not be uninteresting to your readers. I find the debit balance against the mine by this statement, after showing a loss of 17l. 18s. 11d., is 1649l. 3s., but as 36 tons of tin are credited at 60l. per ton, and unsold and unbroken underground, except the working stock passing through the different stages of raising and dressing. This amount is shown in the ledger balances as 2160l., and must be added to the above debit balance in order to arrive at the true financial position of the mine. This makes the adverse balance ..... £1649 3s. 0d.

and £2160 0s. 0d.=£3809 3s. 0d.  
The next item which struck my notice is a supplementary sheet, which states—Labour cost paid April 29 was..... £903 17 6  
Labour cost paid May 27..... 846 1 8  
Labour cost paid June 24 ..... 886 0 6

Total	£2635 19 8
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This cost is not yet charged. The pay on June 24 only pays the men up to May 27. Therefore two pays more should be charged, that is the pay on July 22, which pays the men only to June 24, and the month in hand to the men to pay them to July 22. The returns being credited, and the 36 tons of tin over the cost should surely be brought up to date. In round numbers these two months' cost may be set down at 850l. per month, or 1700l. We have then to consider the merchants' bills, a portion of which are charged down to October, 1881 (say) bring up to the end of June, 1882, or eight months' bills. The average of Cook's Kitchen bills I take from previous statements as 375l. per month, or 3000l. still to be charged to bring their accounts in good order. We have then unchanged to add to the adverse balances of ..... £3809 3 0  
Labour unchanged ..... 2635 19 8  
Two months omitted to July 22 ..... 1700 0 0  
Merchants' bills unchanged ..... 3000 0 0

Making a debit balance of	£11,145 2 8
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In the ledger balance I find water rents credited unchanged 331l. 12s. 8d., and Tincroft adventurers, 179l. 19s. 3d., a bad and disputed debt of very many years standing, and should be debited against the mine, making the total of ..... £11,145 2 8  
Add water rents ..... 331 12 8  
Tincroft adventurers ..... 179 19 3

A grand total of	£11,656 14 7
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One word as to merchants' accounts. The ledger balances show unpaid to merchants on the bills charged ..... £5664 12 1  
And due to bankers ..... 2605 8 10  
And to G. L. Basset, Esq. .... 187 11 8  
against which on other side there is cash in hand 22l. 10s., and bills receivable, perhaps for tin sold, 1387l. 2s. 10d. These figures speak for themselves. IN TERROR.

#### NEW GREAT WORK.

SIR,—In my itinerary last week through some of the western mines, my attention was called to a mine recently started, named New Great Work. It is situated in the parish of Germoe, contiguous to the celebrated Great Work Mine at the east. It was in fact formerly, for at least 200 years, a part of that extensive sett—till lately one of the largest in Cornwall—but strange as it must appear not one of the Great Work companies ever spent 1s. on this portion of it, and it is well for the present owners of New Great Work that they did not. Great Work main lode and its other lodes pass through the length of New Great Work, as shown by the surface workings of the ancients, done probably several hundreds of years ago. Their work consists partly of two adits on two several lodes, one being 15 fms. and the other 20 fms. deep. From the surface to the adits the old workers, so far as I can discover, removed all the contents of these lodes, which is a proof that they were of value. The antiquity of the works is manifest from the circumstance that, instead of wood as used by modern miners, they put in granite posts as staples to sustain the debris placed in the exhausted parts of the lodes.

The names of the lodes in this sett and their respective widths, as given me by the agent, I subjoin; Mill-pool Lode, 12 ft.; Great Work Standard, 4 ft.; Harold, 2 ft.; White's, 2 ft.; Carter's, 4 ft.; Ethel's, 3 ft.; Stephen's, 2 ft.; Henry's, 4 ft.; Ernest, 2 ft.; Boy's, 4 ft.; Great Work, 6 ft. All these have a westerly strike from Great Work. There are also four caunter lode—viz., Trenall Lode, 2 ft. wide; Park Penhale, 2 ft.; Bull's, 2 ft.; and Tresowe's, 4 ft. On several of these lodes the excavations above the adit level are very extensive, as manifested by the large heaps of debris lying at the surface, and by the numerous pits and shafts on their course. It appears that the old workers declined to deal with any but very good tinstone, hence they left in the burrows and in the stulls the other portions of the lodes, which with modern dressing appliances and with tin at about 40l. or 50l. per ton will give a good profit on returning it. The stuff so rejected by the ancients covers many acres of land, containing lode-stuff sufficient for the exercise of large stamping power for many years, leaving out of account the tinstone to be extracted from the lodes, which on so many lodes must, in amount, be beyond calculation. Great Work is a very old mine. When worked about 100 years ago by Capt. Phillips and Co., it is said to have yielded 100,000l. profit, and the late company gained about the same amount. Here working has been resumed by Capt. W. Teague and party, who are now draining the mine for further development below the bottom, which is about 150 fms. deep. The district is highly stanniferous, including as it does the Old Wheal Vor and Godolphin Mines, which together yielded nearly 400,000l. profit. New Great Work is on the junction of granite and clay-slate, so that its geological position is what miners esteem an important element for success. From the

numerous samples taken from as many different points from the heaps of debris forming the burrows and the wastes around, it has been ascertained that the whole mass is fit for metallurgical treatment, the average yield being about  $\frac{1}{4}$  cwt. of tin ore per ton of stuff.

The proprietors have taken a lease of a stamping mill at Mill Pool, which is being worked by a 30-foot water-wheel, lifting at present eight heads eight hours per day; but in the winter eight additional heads can be worked full time (i.e., without intermission) by the same wheel, from the increase of water seven months out of twelve. It is intended to erect forthwith a 30-in. rotary engine for pumping and stamping, the steam-power to be increased for both purposes when and as required. It is natural and reasonable to infer that as the ancients took away all the contents of the lodes they touched, so deep as adit level (and it is believed they could go very little deeper for want of drainage power) the lodes are good below that level, and that as usual they will improve in depth. Without reference to any underground operations which, however, should be carried on, the stuff lying at the surface will yield good profit to the company. The lessors are the Duke of Leeds, General Buller, and others; dues 1-20th. There is a large and deep excavation in the mine-waste, known by the name of the Wheel Pit. As there is not and could not have been any natural stream to turn a wheel, tradition says that a wheel probably 50 ft. high was there, and worked as a treadmill is worked, and that as the owner was Lord Godolphin, the Prime Minister of England in the reign of Queen Anne, he employed convicts in working that wheel, either for pumping water or reducing the tinstone, or for some other purpose. We have no means of verifying the tradition, which we take as a probability only. Taking into account all the circumstances this property must be excluded from the category of speculation, profit being regarded as a certain result even from surface operations alone, and also from development of the lodes. Several men are employed in clearing shafts and adits with a view to mining; at the same time tinstone is being carted to Mill Pool, where shortly a batch of tin will be ready for the smelting-house.—*Truro, July 17.* R. SYMONS.

#### NEW GREAT WHEEL VOR, GREAT EAST VOR, AND NORTH METAL MINES.

SIR,—These three mines, situate eastward of, and contiguous to, the Old Wheal Vor, are also contiguous to each other, and, I believe, are owned by the same proprietors; they are also under the same direction. The works commenced about 18 months ago, all the labour being done by what is called "day work." Without attempting to show that "a fair day's labour was not done for a fair day's pay," it was considered advisable to determine that mode of working, and also to make some changes in the agency department; which, for the past, had not been altogether satisfactory. Orders were, therefore, sent to the mines to stop all proceedings for three or four days, that the proposed changes might be carried into effect. This was done, with the result that a report was circulated—perhaps not mischievously—that all the mines were "knocked, a circumstance never contemplated. Amongst the changes made, is the appointment of Captain Joseph Priske, of Wheal Lovell, as the future manager, which I consider a very wise appointment. He is a very intelligent and practical miner of considerable experience, who, I am sure, will see every work carried out in the best and most economical manner. Some of the late officials have had notice that their services are now dispensed with.

I am glad to find that the pumping and stamping engine is nearly ready for its work, and that the prospects altogether are very encouraging, particularly in Great East Vor, and North Metal, which have the Old Wheal Vor rich lode passing through them, and on which no operations have been performed since the ancient miners left them, a "long time ago;" and who worked only to adit level, about 15 fms. below surface.—*Truro, July 27.* R. SYMONS.

#### MARKET ECHOES, AND MINING MATTERS.

SIR,—Under this heading in last week's Journal, Mr. James H. Crofts takes upon himself to attack the Herodsfoot Mine, in which I have been a shareholder for two years past. From enquiries made, I am informed the remarks were purposely inserted with a view of damaging the interest of a large shareholder, because that gentleman in some way displeased Mr. Crofts. I can hardly conceive it possible that bad feeling should be carried to such an extent as to the injury of a large body of shareholders, merely to satisfy the passion of a young man like Mr. James H. Crofts. I have noticed during the past few weeks in your Journal Mr. Crofts has advertised Herodsfoot shares for sale at a very low price—in fact, as low as 3d. per share. I can now account for these proceedings; possibly he may have frightened holders out of their shares, and possibly he may now be a "bear," and wishes to frighten other holders.

Anyone reading the "Market Echoes," which should have been headed "Crofts' Echoes," may see the animus, and I would caution shareholders in Herodsfoot against noticing Mr. Crofts' "Echoes" under such circumstances. The system of advertising shares at fixed prices does an immense amount of injury to shareholders in mines. It is an unfair system. I would just add, some of Mr. Crofts' statements respecting Herodsfoot are incorrect and misleading. London. A SHAREHOLDER IN HERODSFOOT.

#### EAST CARADON COPPER MINE.

SIR,—In last Saturday's Journal it is said—"East Caradons have advanced from 1s. 6d. to  $\frac{3}{4}$  s. at the meeting a call of 2s. 6d. per share was made." Please allow me to say that the call was only 2s., and it is probable that it may be the last, as the output is increasing, the ore of better quality, the costs decreasing, and the mine looking very much better. The 130 has got through the elvan, and they have recently crossed two east and west lodes, with a leader of copper ore 8 in. wide. The 150 has during the quarter been driven nearly 12 fathoms, and the agents think they will soon be through the elvan into granite there also, so that altogether the prospects are at last very cheering. M. E.

#### LOSS OF TIN.

SIR,—The Red River, which is the boundary between Camborne and Illogan parishes, and which receives the water discharged from numerous mines, has long been the subject of remark in your Journal in connection with tin. It is well known that, despite all the care taken by the agents and tin dressers at the several mines whose streams flow into that river, hundreds of tons of tin ore are sold annually by the "squatters," as some have called them, who have dressing appliances in the valley.

The question naturally arises, how can so much tin escape from the mines where so much care is taken to retain it? Doubts have been expressed as to the honesty of the mine agents, who are said to have some interest in the works on the river. This doubt is unreasonable, because unless such agents have works close by the mines whence the tin escapes they could derive little benefit from any wilful waste of it, even if they were dishonest, which I do not believe. Other people would have the chief benefit. The fact is the tinstone is reduced so very low by the stamps, owing to the fineness of the tin requiring it, that it is carried away on the water, and is caught in its course to the sea by everyone who has works for the purpose; each one catching a little. I question whether any mechanical arrangements will ever be invented to meet the difficulty, or that any other means will be found to do so. Capt. T. Parkyn's "save all" will not do it.

Another cause of the loss of tin from our mines is said to be robbery, and I am of opinion that a large proportion of the tin sold by the river workers, and perhaps streamers, is obtained in that way, and also by those who are called "bargain buyers"—men who purchase tinstone to be dressed on their own premises. I am inclined to believe this to be the case, from the following circumstances:—1. Because of the large quantities of tin ore sold by the respective parties referred to.—2. From the deficiency of the returns made at the stamping mills of some mining companies, as compared with the tinstone sent thither for treatment.—3. From the facility with which dishonest men, women, boys, and girls can carry off tin

ore and rich tinstone, in small quantities in their pockets or baskets, and sell it to either of the classes referred to. If many workers take only one pound of tin ore each per day, it would amount to a large quantity in a few months, or even weeks, and this may have been the case, as no examination is made; no pockets or baskets of the workers at the mines are examined on their departure therefrom.

In gold, silver, and some other mines such examinations are made constantly, and it should be done at tin mines—at least, occasionally—to keep the workers in fear of detection. From robbery, doubtless, a great loss is sustained by mining companies, and I would impress upon managers of mines the propriety of checking peculation, as suggested.—*Redruth, July 11.* OBSERVER.

#### TIN MINING IN DEVON.

SIR—Special attention is directed to tin mining in the parish of North Bovey, particularly at the west end of the parish, where many well-known lodes have been worked for a century or more and proved highly profitable. There are a great many east and west and caunter lodes that have been worked on to a great extent by the old miners, their works varying in depth from 5 to 30 fathoms. Ancient adit levels may be seen, and in an adjoining mine sett open cuttings from 300 to 400 fathoms in length, one of the lodes referred to, several trial shafts have been sunk which have resulted in a splendid discovery for tin. The old miners in their time worked on the backs of the lodes from surface, similar to working a quarry. At the commencement of their working a conduit would be made on the lodes to carry off the water, the lode taken away, and the refuse placed on the conduit. In this case a second conduit was made, showing plainly that an extra effort was made at a considerable cost and time in order to remove the whole depth of refuse deposited on the first conduit. At the same time the richness of the lodes undoubtedly had been proved by this first trial, and quite justified the deeper workings—the second conduit being made to unwater the lode at a greater depth. This lode underlies about 1 foot in a fathom and is 5 feet wide, composed of capel, quartz, and tin ore, which can be unwatered by driving an adit level on its course from 30 to 40 fathoms in depth, and several more equally as promising lodes at a much greater depth; and the tinstuff can be taken out and stamped with "water-power." Here is the advantage of a "dry mine" for many years, also possessing the advantages of water-power for stamping and dressing, which will effect a very considerable saving in the working expense. The property is very extensive and within an easy distance from rail. The turnpike road adjoins the mine and the property is obtained on very reasonable terms, and well deserves the attention of capitalists.—*July 26.* TIN MINER.

#### THE LONDON COAL SUPPLY.

SIR,—London coal supply at a saving of 7s. a ton on Tyne freight, and 8s. a ton on railway ditto from Yorkshire, plus London incidental expenses, collateral with an omnibus service at a halfpenny fare, to meet the urgent demands of an unintermittent flow of traffic during the brief periods of ingress and egress from the City, resulting in an annual saving of 5,000,000l. sterling to the Metropolis.

With your indulgence a persistent contributor upon this important subject to the columns of the *Mining Journal*, the oldest organ of the coal trade, it may not be deemed inopportune to deploy the immense saving that will accrue to the Metropolis, simultaneously with a greatly increased revenue to the Corporation, stimulated by an augmented consumption consequent upon a reduced cost to consumers. It is a well-known fact that the cost of conveyance, with attendant expenses, whether sea or rail borne, by far exceeds the prime cost at the pit's mouth, the great factor requiring amelioration being, by no means, the coal, but according to the evidence of the Yorkshire coal delegate before the Select Committee on Coal, the railway thralldom, mulcting the London public with several millions sterling annually. Coal traffic is literally the beast of burden, in a financial point of view, of the railways, made to bear all their mismanagement and reckless expenditure on useless lines. The evidence of the general manager of the Midland before a Parliamentary committee stated—"Railway companies are very guilty in their contests with each other in starting useless lines bringing no dividends." The general manager of the Great Northern gave the following evidence last month before a similar committee—"Our Methley branch, 6 miles, cost 720,000l., and only pays 1½ per cent." Their deplorable Sutton Dock speculation, and other matters too prolix to enumerate, bear upon the coal rate. Yorkshire, household, and steam coal can undoubtedly be delivered at predated savings, which, upon the last official return of 10,250,000 tons in 1881, will create with an augmented consumption, by reason of a greatly diminished cost to the consumer, an annual saving of 5,000,000l. sterling to London, and if we compute the saving on the selling price a large increase will ensue.

At this very time Yorkshire coal is advertised and selling in the Metropolis at a price giving a basis of certain calculation as to price at pitmouth, resulting in a cost by proposed system of under 10s. a ton delivered into consumers' premises, and at this rate the outcome of a net profit, after deduction of redemption, or replacement, repairs, insurance, wages, fuel, engine stores, horse keep and stabilising expenses, labourage, sacks, City dues, cartage, management, port charges, wharfage, and all charges of whatever nature, distributing a net dividend on invested capital of upwards of 50 per cent. per annum. However startling this may appear, it is rigorously correct, and open to verification, and justly deserving the serious consideration of the Corporation, Board of Works, and River Thames Conservancy in view of facilities to be conceded by them. The coal purchased by a limited company will be discharged from the pit bank top over the screens into sacks on a system similar to what exists at St. Pancras, the labour of filling the sacks and loading the company's wagons charged in predated "Devis" then led to the Trent or Ouse in the company's trucks, hauled by their traction engines with my patent endless railway wheels, not Boydell's patent, there transferred into the company's steamers with a draught ensuring daily access, springs, or neaps, and discharging above all the Metropolitan bridges into the company's horse vans with predated wheels. The *Mining Journal* has declared my system to be the only rescue of the Yorkshire coal trade; the Colliery Guardian states "Mr. Thompson's scheme will revolutionise the London coal trade, and extinguish existing transit of coal to London." The Engineer has declared it to be perfectly feasible. The system proposed being entirely independent of railway conveyance from the pits to the Trent and Ouse, and as a regular goods traffic has been provisionally guaranteed by a leading London wharfing company, which can be conveyed by return empty steamers and wagons remuneratively at greatly reduced cost upon existing railway rates to Manchester, Leeds, and the manufacturing districts generally, it is by no means sanguine to anticipate a very considerable reduction upon aforesaid cost of the coal delivered in London. One paramount element of extreme reduced working expenses is the low rate of speed of the steamers, with, however, a surplusage of power to contend with severity of bad weather and overcome ordinary contingencies.

A lengthened discussion at the Institution of Civil Engineers on the most suitable speed for steamers in the coal trade brought forth a unanimous condemnation of existing speed of screw colliers, terming it absurd, regularity of supply being of greater importance than speed. The proposed steamers will, as is well known, encounter at a low speed infinitely less resistance, enabling them to propel a much larger cargo proportionately with their power than any existing screw collier. Egress and ingress into the Humber is not subjected to the same obstructions as exist on the Tyne, Wear, and Humber, where it is well known full powered steamers are often prevented putting to sea. Such cannot exist in the Humber.

According to a leader of a prominent daily paper on the 21st inst—"The tramway system is as yet all too restricted, and is susceptible of further development on a colossal scale." Since the appearance of the first omnibus on the streets of London in 1829, and the later inauguration of the tramway system, by Mr. George Francis Train vehicular facilities have not augmented with the gigantic increase and influx of population. The essence of a tramway is to keep up a continuous flow of traffic, so that a car should always be at command of the public, constituting a continuity of service which



is totally wanting at present. Proposed system will hold at the disposal of the immense masses gaining ingress to the City and emerging from same during the brief periods such lasts an unlimited number of cars at a halfpenny fare where existing tramcars circulate, and one penny when they are not permitted to lay down rails. Having encroached beyond the usual space allotted to correspondents, I must with your permission pursue the omnibus traffic in my next.

Little Towner-street, July 26,

W. J. THOMPSON.

#### REPORT FROM CORNWALL.

July 27.—The steady advance in the tin standards and the way in which the smelters are putting them up week by week, is at length beginning to have some effect, and the share market is becoming more animated after so long delay on the part of the investing and speculative public to appreciate the inevitable; we should not be at all surprised if there were not something like a rush. The most reluctant to believe and to act upon good news now appear to think that tin is fairly on the move, and that they had better lose no time in profiting by this opportunity before the movement gets too decided for them. The Egyptian complications so far do not seem to have any backward effect, but rather the reverse, arising from the certainty of decided action. Dolcoath report is, as usual, one of the best ever presented, and with no trace of falling off in productivity. True, she is beaten by East Pool in the amount of profit and of dividend, but that is rather an incident than an essential of her condition and prospects, and the current quarter is certain to show a very marked advance in both.

The Devonshire Association for the Advancement of Science, Literature, and Art is holding its twenty-first annual meeting this week at Crediton, under the presidency of Mr. J. Rorking Rowe. None of the subjects discussed have, however, any connection with mining interests, though even the locality might have been expected to evoke some.

The North Cornwall Railway Bill has passed—the Great Western Railway Company having withdrawn their futile opposition—with less difficulty than the sister scheme, the Devon and Cornwall Central. This northern scheme is not of so much importance to the general mineral interests of the county as the other, on which we commented last week, but it ought to have good results upon the development of the output of slate in the Delabole district, &c. A very little more now and Cornwall will be as well supplied with railway accommodation as almost any county in the kingdom. Yet how short a time it is since it was made the subject of Wilkie Collins's amusing book, "Rambles beyond Railways." But we move rapidly now—almost too rapidly sometimes—in these matters, and Cornwall has yet to justify the confidence placed in her resources. We have no doubt, however, that the justification will come.

There is a steady development in the employment of the Devonshire marbles, and at Plymouth their preparation here now becomes so important a source of mineral industry that Messrs. Goad are erecting a new factory. These marbles were largely used in the decoration of the municipal buildings at Birmingham, and are about to be introduced into the municipal buildings at Leeds. In London they may be seen to the best advantage at the magnificent Oratory at Kensington, where there are columns and bases of Plymouth marbles—black, green, grey, dove, red, brown, variegated and fossil—ranging up to 30 ft. in height. Probably the most handsomely marked of the lot is a set just completed for the chapel of St. Wilfred. It is satisfactory to find this department of our mineral resources in such a flourishing condition. A few years ago the demand was little more than local, and not too much of that.

#### REPORT FROM DERBYSHIRE AND YORKSHIRE.

July 27.—Mining operations have been going on much as usual in Derbyshire, but as far as the metals are concerned there does not appear to be any increase during last year, for the total of lead ore raised was only 4418 tons, a small quantity when the number of mines being worked is taken into consideration. But many of these, as we have before pointed out, are held by working men, who carry on their operations without the aid of the necessary machinery. But in minerals of a varied character the county holds a good position, for last year it raised 2725 tons of barytes, which, we believe, is now the substitute for white lead paint, being equally as good, but at the same time non-poisonous, as well as 4573 tons of chert and 2473 tons of calcspar, which is found in working the lead ore, and is also converted into paint. Derbyshire is also the principal place in the kingdom in which gypsum is mined, and last year along with Nottinghamshire it was credited with 69,984 tons, whilst there is a vast quantity of limestone raised in various ways. Fine black marble is got in the neighbourhood of Ashford and Bakewell in blocks or slabs of almost any size, and is capable of receiving a high degree of polish. It is this marble, gypsum, and flour spar that forms a trade in Matlock, where they are made into various articles, both useful and ornamental, and are much prized by the visitors to that place, which has with much truth been called the Switzerland of England. There has been a falling off in the quantity of ironstone raised, as our ironmasters now depend for their supplies on Northamptonshire more than they have previously done, so that large quantities are now brought by the Midland Railway Company daily. The iron made from it is of good quality, and in addition to what is consumed at the local ironworks a considerable tonnage is sent into Staffordshire, Lancashire, and other districts. At the present time a steady business is being done in it, and there are a large number of furnaces in blast, Staveley, Stanton, and Sheepbridge taking the lead. There is not so much activity at the rolling mills as there was at one time, for one of the works in the county having the most mills was at one time the great producer of girders, a fine example of which is to be seen at the great span at St. Pancras station. At the foundries there appears to be more doing in pipes and other heavy work, as well as in the lighter descriptions of castings. In engines and machinery, especially that for mining, a steady business has been the rule for some time past. At the steelworks at Dronfield there is evidently plenty to do in the turning out of rails, but how long this will continue to be the case no one in the place seems able to say, but that the works will before long be removed into Cumberland does not admit of much doubt, for some of the tradesmen have already taken their departure so as to be near to their old customers.

In Sheffield the branches in which there was a falling off a short time since are now looking better, and there is every appearance that trade all round will continue good to the end of the year. Some considerable orders have been booked for Australia and other of our colonies for cutlery and other material, and advices from travellers on the Continent, are also more favourable than they have been. In the heavy departments there is still unabated activity as regards armour-plates, whilst there is about an average output of those for ship-builders and boiler-makers. Steel plates are also becoming in increasing request, and more is being absorbed in the manufacture of wheels, axles, and mining tools. Bessemer rails, although the mills engaged on them have been running much as usual, yet the demand for them is scarcely so brisk as it was two or three months since. Prices, it may also be said, are not so high, some sections being taken as low as 57. 10s. per ton, if not lower. Ordinary railway material goes off much as usual, the makers being well supplied with orders. In sheep-shears, hand-made and otherwise are in brisk demand, and this being the busy time of the year, and the leading firm has recently introduced a speciality for shearing that will be of great advantage to those connected with sheep farming. The cutlery-houses are doing well, although the high prices which ivory made at the last two sales at Liverpool has increased the cost of the best qualities of table and some other descriptions of knives. Secondary descriptions of knives, however, are in better request, for our makers are now enabled to meet the American manufacturers in their own markets, even for inferior cutlery, as they have long done in the superior qualities. A steady business is being done in scissors, a branch in which the Germans do a good deal, even in England, producing a good looking article at a low price, but lacking the superiority of the English metal. Razor-makers, as well as those

connected with the edge tool, saw, and file branches have had no cause of complaint of late.

The coal trade of South Yorkshire has undergone but little change of late, there being a fair demand for steam qualities, especially for shipment to the North of Europe and for locomotive purposes. House coal, however, is still at a low ebb, the requirements being most moderate, and the prices such as scarcely leaves a fraction of profit.

#### REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

July 27.—The reports brought on to 'Change this week by the coalmasters were that the Staffordshire, as distinct from the Cannock Chase pits, are making on the average four to four and a half days a-week. The bulk of the manufacturing coal is now being raised in the Bloxwich, Pelsall, and Wyrley districts—districts which fortunately for the masters, so at least they think, are altogether outside the operations of the South Staffordshire Mines Drainage Act. Therefore they have to bear none of the drainage rates which form one of the pecuniary difficulties which other South Staffordshire occupiers have to contend against. Yet in the localities named, as indeed elsewhere also, present prices and weights were never more favourable to buyers. Best furnace coal is 7s. 6d. to 8s. 6d. per ton at the pits, long weight, and forge coal 6s. to 6s. 6d. per ton. Cannock Chase forge coal is 5s. 6d. per ton long weight, and superior sorts 6s. Cokes were in fair demand. But certain blast-furnace proprietors complained loudly of the unfair practices pursued by some Welsh vendors in soaking the cokes in water to such an extent as to greatly lessen the real tonnage which they supplied. Pigs of foreign sorts were here and there fairly active at last week's prices. Willingsworth (native) pigs were at 45s. to 47s. 6d., and cinder pigs about 40s. South Yorkshire pigs were 60s., delivered here. Bar makers are steadily engaged at 77. 10s. for "marked" sorts, 67. 15s. to 67. 10s. for medium qualities, and 67. 5s. to 67. for common. Sheets sold well, but plates were dull.

The recent notice by the North Staffordshire coal masters for a reduction of wages by 5 per cent., which expires with this week, has been received unfavourably by the men of the Midland Counties generally. On Tuesday the Association of the Federation of Miners for the Midland Counties at a meeting in Wolverhampton, attended by representatives of about 52,000 men, passed a resolution trusting that, in the face of recent better trade and a substantial increase of prices, the employers would withdraw the notice, and so maintain the good feeling at present existing between masters and men. The meeting appointed delegates from certain of the districts represented as a deputation to attend any meeting between the employers and employed that might afterwards be called in the event of an amicable settlement being agreed upon.

Mr. Justice Chitty has granted a winding-up order, under the supervision of the Court of Chancery, in the case of John Bagnall and Sons (Limited). The petition was presented by a creditor for a compulsory order, but since it was presented a resolution had been come to by the company to wind-up voluntarily.

At the Railway Rolling Stock Company half-yearly meeting, held at Wolverhampton, under the presidency of Mr. S. Loveridge, the directors' report showed that the profits of the half-year amounted to 35632, being 3082, in excess of the corresponding period last year. The company now possessed 4579 wagons, and had a sum of 22,475, in the bank. The report was adopted, and a dividend at the rate of Three per cent. per annum on the preference and ordinary shares was declared. The Chairman stated that he believed they had now reached the bottom of bad trade.

#### STEEL FROM STAFFORDSHIRE PIG.

The following letters have been addressed to the Editor of the Birmingham Daily Post:—

SIR,—Mr. Alfred Hickman's letter, which appeared in your issue of the 21st inst. (also published in last week's *Mining Journal*), impugns certain statements for which I am answerable, and therefore calls for a reply. With regard to some of the ironmasters whose names he mentions, I can only say that they expressed doubt as to the success of the basic iron or steel, except for special purposes, and appeared reluctant to join the proposed new company. Objection was also raised (but not by me) to the premature use of names as directors, and a contradiction was requested, which duly appeared in the Times of the 8th inst. However, I have not the least desire to hinder the formation of the proposed new company; on the contrary, I have always stated there is a certain demand for mild steel in the district, and if it can be produced by the basic process at a moderate cost and of regular quality, the demand is sure to increase. I willingly acknowledge that the metal has virtue in it; but, on the other hand, I still maintain that it will not suddenly revolutionise the iron trade, and the probability of its superseding puddling is, at any rate, uncertain and remote. Such being the case, it is lawful for me to say that I do not care to engage in the manufacture of steel.

A material point in Mr. Hickman's letter is that he sets forth an array of figures, ending with 17 per cent. of waste, in apparent contradiction to my statement that the absolute loss of metal from the pig to hammered bloom is 30 per cent. Now, I think that when he makes a statement in the nature of a correction or contradiction, it was incumbent upon him not to stop short of the mark; but the fact is that, instead of carrying on the figures from pig to bloom, he has stopped short at the intervening stage of ingot. In order to clear up this important point, I will now give the complete figures extracted from the final account received this week by members of the syndicate:—

	Tons	cwt.	qr.	lbs.
Pig-iron used ... ..	88	8	0	0
Less cast scrap ... ..	5	19	3	0
Ingot made ... ..	82	8	1	0
Waste ... ..	68	2	3	0
Or more than 17 per cent.	14	5	2	0
NOTE.—The cast scrap contains a mixture of iron and burnt sand, commonly called scull, and is, therefore, of less value than pig-iron. The above 5 tons 19 cwt. 3 qrs. will probably produce about 4 tons when remelted, and the difference must be added to the waste, making it about 19 per cent.				
The next stage is that the ingots being ... ..	68	2	3	0
There were sold as ingots ... ..	10	0	0	0
Spilled ingots, result of a bad blow ... ..	3	0	0	0
Leaving ... ..	55	2	3	0
The latter quantity produced ... ..	40	0	16	
Hammered blooms ... ..	40	0	16	
Scrap ... ..	8	5	3	0
Waste ... ..	6	17	0	0

Or about 12½ per cent. The 12½ added to the 17 or 19 justifies the previous statement that the absolute loss of metal has been 30 per cent., exclusive of scrap. I have not hitherto made any reference to the large proportion of scrap, but Mr. Hickman, knowing it to be a weak point, has sought to explain and excuse it. Of course, some allowance must be made for retarding a plant which has been in disuse for four years, but still it is an ordinary Bessemer plant, although not of large size, and was regularly worked by the Patent Shaft Company so long as they had a demand for the material. When I saw one of the experimental blows, the plant and the men were in fair working order; but even if an improved plant reduces the percentage of scrap to half the present quantity, it will still form a serious drawback. I will, in conclusion, just refer to a paragraph in your Iron Trade report of Thursday last. It is there stated that ingot iron or mild steel billet can be produced at 47. 10s. per ton (exclusive of capital, interest, and dead charges) against common iron at 67. Now, whoever inspired that statement was waiting in candour or in clearness. The point of comparison is steel billet at the assumed cost of 47. 10s., against puddled billet, which is being actually sold at 47. 10s. In both cases the cost of the finishing process remains to be added.

#### STEEL FROM STAFFORDSHIRE IRON.

SIR,—I shall be glad to be allowed to reply to the letter of Mr. Hingley. The real question is not what the metal costs to make at our experiments, but what the experiments proved that it would cost in ordinary working with proper appliances; and this question Mr. Hingley persistently ignores. By the latest improvement the ingots are taken out of the moulds almost immediately after being cast, and are placed together in a confined pit where they remain until sufficiently consolidated to roll or stand hammering. The difficulty has hitherto been that the exterior of the ingots became too cold to stand rolling, before the interior was consolidated, so it was necessary to reheat them, causing a waste which, as is well known in regular working, would not exceed 5 per cent.; but a number of ingots together keep each other warm until they are set all through, no reheating is required, and consequently there is no waste beyond that of converting pig into the ingot, which even in our experiments was, as stated, only 17 per cent. As regards the scrap, this was caused by our not being able to work continuously, and consequently having our vessel, ladles, and moulds always cold. With continuous working not only could any scrap accidentally made be used, but a considerable quantity of bought scrap also.

#### STEEL FROM STAFFORDSHIRE PIG.

SIR,—Referring to Mr. Hingley's letter, I beg to say that the question is not what the metal costs to make at our experiments, but what these experiments proved that it would cost in ordinary work-

ing with proper appliances. Every practical man knows that a solid ingot taken out of the mould hot direct to a furnace and slightly reheated can be rolled into a bloom or billet with less than 5 per cent. waste, but recently an improved method has been introduced which obviates the necessity of any reheating, and the waste is practically nothing.

In our experiments the ingots were suffered to go cold, and were afterwards heated and manipulated to suit the varying requirements of 22 different works, at odd times when the Patent Shaft Company could spare their machinery for the purpose, and it is obviously unfair to found any argument upon results so obtained. It is easy to understand that gentlemen who have large sums invested in puddling-furnaces will be slow to believe in any process that supersedes their use, but it is evidently short-sighted to attempt to ignore accomplished facts.

Kensington Palace Gardens, London, July 26.

ALFRED HICKMAN.

#### STEEL FROM STAFFORDSHIRE PIG.

SIR,—I do not wish to prolong the controversy with my friend Mr. Hickman; but as he has written two letters this week in which he affirms that I ignore accomplished facts, and have not made due allowance for the experimental character of the operations, I refer him to my letter of July 22, which indicates that such allowance must be made. I am surprised that Mr. Hickman should speak of superseding puddling being an accomplished fact. The only ascertained result at present is that metal of an uncertain character—some very good, and some the reverse—has been made at a cost of 122. 6s. 5d. a ton, after deducting the exceptional cost of analysis, and also giving credit for the scrap at its full value. It must be admitted that there is ample room for improvement.

Netherton, July 27.

BENJAMIN HINGLEY.

#### TRADE IN SOUTH WALES.

July 27.—The steam coal trade maintains its activity and prices remain steady at about 11s. for good colliery screened. Enquiries are being made with a view to contracts for the year 1883. One has already been made, but the price has not transpired. The amount sent away from Cardiff has been 124,811 tons foreign, and 14,967 coastwise; Newport, 27,689 tons foreign, and 15,176 tons coastwise. Swansea, 13,009 tons foreign. The Llynvi and Tondou Coal and Iron Company have struck the Six-foot seam of coal at the Coegnant New Pit in the upper part of the Llynvi Valley. A short time ago the celebrated Aberdare Four-foot seam was discovered in the same valley. Considering the short time that the pit has been started this is one of the most successful mining operations in the Llynvi Valley. The future prosperity of the mining industries in Maesteg appears to depend on the development of this northern part of the Llynvi Valley, which is quite a maiden district. In the Ty Gwyn Bach Colliery, almost adjoining the Coegnant Pit, the output of coal has increased in a short period from 40 tons to upwards of 300 tons a-day.

The quarterly meeting of the South Wales Institute of Engineers was held last week at the Royal Hotel, Cardiff, Mr. E. Williams in the chair. Mr. Hedley, whose paper on a breathing apparatus, to enable persons to pass safely through foul gas in a coal mine, was read at the last meeting, gave some explanations referring to some experiments where the apparatus has been tried at a recent explosion of coal gas, and which were in every respect satisfactory. A very able paper, "On the Economy of the Blast Furnace," was read by Mr. I. L. Bell, F.R.S., the eminent ironmaster, of Middlesbrough, who went minutely into the theory and practice of the manufacture of pig-iron, and the consumption of fuel in blast furnaces. The paper was full of figures and formulae, which will be a valuable addition to the published proceedings of the Institute. The cordial thanks of the members were passed by acclamation to Mr. Bell. A valuable paper was also read by Mr. Sydney F. Walker, M.I.E.E., "On the Principle of Electric Lighting and the Transmission of Power by Electricity," directing attention to the different systems of electric lighting which have been brought before the public, and the special adaptability of electricity to mining operations. These papers were briefly discussed, and then adjourned to the next meeting for further consideration.

The iron and steel trades of the district are gradually improving in activity, although prices remain about the same. Some parcels have been sent away from Newport as follows:—Drontheim, 500 tons; Dieppe, 335 tons; La Guayra, 250 tons. Of iron ore there have been received at Newport no less than 19,542 tons from Bilbao, and 2500 tons from other places; Cardiff, 13,576 tons from Bilbao, and 9003 tons from other places. The quoted price is from 15s. to 15s. 3d. per ton. Tin-plates are slowly rising in prices. Coke makes are from 16s. to 16s. 3d. at Liverpool, and charcoal makes from 21s. to 22s. per box, and are rapidly bought up at the price. The price of tin is also advancing. The case for the promoters in the Bute Dock case before the House of Commons Committee is now finished, after an exhaustive eight days' enquiry, and the opponents of the Bill will now be heard. It is always dangerous to predict unless you know, but from the remarks of the committee it would appear that the promoters will carry the day. Lord Bute feels that while the Taff Vale Railway Company divide 17 per cent., and the Rhymney 11 per cent., he ought not to be content with 3½ from the docks. He therefore proposes to charge one penny per ton for certain services which have hitherto been rendered gratuitously. This will be about equal to another 1½ per cent., and make his return up to 5½ per cent. The freighters object to this, and hence the struggle in committee.

#### TRADE OF THE TYNE AND WEAR.

July 26.—The steam coal trade continues extremely brisk, some of the leading collieries have full work in hand for a month to come, and they have succeeded in getting an advance in price, which is well maintained. Of course there are various opinions as to the probability of the greatly increased demand which has occurred continuing; we are inclined to the opinion that it will continue, as there has been a gradual improvement in the demand for this coal for a long period back, and now there is a sudden increase, indeed quite a rush, for best class steam coal. The steam coal in this district has come greatly into use for locomotives on the main lines during the past few years, and the export trade has also improved considerably. There is also a good demand for steam small coal at improved rates, and in consequence all the produce of the collieries, as a rule, is cleared off. There is a continued activity in trade generally. Throughout this district there is a large volume of business done, and the tendency of prices is on the whole firmer. The effect of the outbreak in the East is now to a large extent appreciated by business men. There are enquiries for steamers for transports, which has caused considerable interest in the exchange. Several Tyne steamers have been offered, the rates expected being 16s. to 17s. per gross ton per month. The rate is considerably in advance of that received for ordinary transactions. The demand for coal of all kinds is good, and with the large number of orders in the market it is expected that the upward movement in prices will be general.

We have often remarked in this letter on the importance of the new Spanish tariff which came into operation on Aug. 1, and this will place England at a great disadvantage. It is held by some that the trade between this country and Spain is threatened with complete destruction, as France, Belgium, and Germany are placed in a favourable position by the tariffs, and they will thus be able to secure the trade with Spain almost entirely, and exclude England from it. Several direct lines of steamers have been established between the Tyne and America; but these lines have not been very successful, mainly owing, perhaps, to the fact that the steamers have hardly been suitable for the trade. An attempt is now being made by the chief shippers to agree to support one line, and thus to secure a regular weekly communication. If this attempt proves successful, suitable vessels will be put on, and one regular line will do the work thoroughly.

The Durham collieries are generally well employed; there is a good demand for gas coal, both coastwise and for export, and the demand for coke for the iron districts is also good, while the shipments of coals and coke at Tyne Dock and the other principal shipping places on the Tyne and Wear have been large during the past week. It is earnestly to be hoped that the general demand for this important mineral will be so increased as to afford a fair profit on the capital employed, and also allow an increase in the wages of the miners and others connected with coalowners in proportion; at present neither of the parties are at all satisfied with the proceeds. It appears to be a mystery not yet solved why the demand for coal, which in 1874 caused 125 millions output, and produced 63½ millions



sterling, should be increased to 154 millions in 1881, whilst the value of this huge quantity was only 384 millions. This is a marvellous increase of trade, with a serious decrease on the value of the article sold.

Since the late serious explosions at Durham collieries the subject of shot firing has attracted much attention, and where it is possible blasting by means of gunpowder is, of course, avoided; but it is difficult in some cases to avoid the use of explosives, especially for blasting stone in forming main roads, airways, &c. The system of bringing down coal adopted at the Shipley Collieries, near Derby, has so far, we understand, proved successful; this system has already been explained in the Journal, but we are not aware whether it can be applied for the purpose of bringing down stone as well as coal; if it can be so applied, there is no reason whatever why shot firing should not be entirely abolished in fiery mines.

The improvement in the iron trade continues; there is a good demand, and prices are stronger. The minimum rate for makers is now 44s. for No. 3, and they are now so confident as to make them quite unwilling to sell for forward delivery. The shipments of late have, on the whole, been very satisfactory. The manufactured iron trade has been very steady; there is no change in prices nominally, but there is much firmness. Ship-plates are firm at 67. 15s. Boiler-plates, 77. 15s. Pig-iron warrants are about 44s. Messrs. Connell's stock is 119,863 tons. Shipments of pigs were last week 14,016 tons.

THE NORTH-EAST COAST EXHIBITION.—A general meeting of the committee who have the management of this affair was held in the Wood Memorial Hall, Newcastle, on Wednesday, the Earl of Ravensworth presiding. The Exhibition will be devoted especially to naval architecture, marine engineering, coast lighting apparatus, &c., but the Exhibition will really embrace most of the industries of the Tyne and Wear. A report from the executive committee was read by Mr. Renwick, the secretary. The guarantee fund now amounts to 2500l. The Exhibition will take place in the Tynewood Aquarium. The available space is 26,000 ft., and applications have been received already for 16,000 ft. The Exhibition will be lighted and also the roads leading to it by the electric light companies gratuitously. Some discussion took place, in which Sir William Armstrong and other gentlemen took part. From all the sections gratifying reports of the progress being made were given. The Exhibition will be opened on Sept. 6. Additional annexes are now in course of erection. This part of the building will be set apart for heavy machinery in motion. Many of the Tyne marine engine builders intend sending large engines for exhibition, and also donkey engines, cranes, &c. The winter garden is appropriated for ship models, and the principal builders on the Tyne, Wear, and Clyde will send models of the best vessels they have built of every class, embracing all the recent improvements in construction.

#### FOREIGN MINING AND METALLURGY.

The current of orders has been well maintained at St. Dizier. A number of contracts have been renewed, showing that confidence is felt as to the future, as well by purchasers as by producers. Prices have, however, remained upon the whole without variation. Rolled iron from coke-made pig has been quoted at 82. 8s. per ton, and mixed ditto at 97. 4s. per ton. The German iron trade has continued in a very satisfactory condition. The demand is becoming decided, and has afforded sufficient employment to almost all producers. Some branches are, indeed, in such an active state that we must not be surprised if we witness an advance in price. Plates and iron wire have been especially in request as well as iron for construction purposes. There has been a well-sustained demand for iron in bars; the enquiry has, indeed, been sufficient to justify a slight advance. This advance has been attempted, but in all other branches there has been no material change in quotations. An adjudication for accessory railway material has just taken place at Strasbourg; on this occasion 60 tons of fish-plates were taken at 12l. per ton, and 62 tons at 10l. 16s. per ton. An adjudication of 2000 tons of steel rails for the Belgian State Railways has also taken place. The tenders showed an advance of about 8s. per ton as compared with the last previous adjudication. The Great Central Belgian Railway Company has concluded a contract with the Angleur Steelworks for the supply of 10,000 tons of steel rails, to be delivered in the course of 1883 and 1884; the contract price is 57. 8s. 10d. per ton.

Tenders have just been delivered for the supply of coal for the Belgian State Railways. The prices offered reflect the at present extremely favourable condition of the trade, a sensible advance being indicated as regards products of all descriptions. The whole quantity of coal required by the State lines, and for the supply of which the tenders just referred to were delivered, is 433,300 tons, besides 10,000 tons of coke. In all 41 tenders were delivered, the range of prices being from 6s. 3d. to 7s. 5d. per ton. There was also a marked advance in the rates asked for the coke required. The coal trade continues to improve in Germany, orders having become more numerous and the production is easily disposed of in consequence. The demand for industrial coal continues to be especially well sustained. The Sarre district is beginning to benefit from the opening of the St. Gothard Tunnel; at present, however, the deliveries made consist principally of coal dispatched experimentally, and some months must still elapse before we can judge of the real importance likely to be acquired by the Italian outlet which the district expects to obtain. The deliveries made to Italy in June amounted to about 4000 tons. The whole deliveries from the Garre mines in June amounted to 418,318 tons, showing a reduction of 8065 tons as compared with May, but an increase of 38,965 tons, or 11 per cent. as compared with June, 1881.

The Belgian iron trade has exhibited not only firmness but also animation. The demand appears to be becoming more decided every day, and this enables ironmasters to attempt an advance in prices. As an illustration of the present tendency of affairs we may state that many clients who had contracts in course of execution are proposing to producers to double the quantities which still remain to be delivered to them on condition that the future supplies are forwarded upon previous terms. This is a clear proof that consumers anticipate an upward movement in prices rather than otherwise. While consumers thus endeavour to protect themselves against this probable advance, their very eagerness to do so has a tendency to bring about the rise which they anticipate. This is for the rest what is actually occurring at the present moment. Many foregatherers have now assured them in advance for three months at least; under these circumstances they might refuse orders in the expectation of higher prices, but speaking generally they show a disposition to content themselves with maintaining present rates with firmness. English casting pig has been dealt in at 27. 12s. per ton in all ordinary transactions. Holders of first quality casting pig at Charleroi have been asking 37. per ton, while the Athus Works have maintained their rate at 27. 10s. per ton. Refining pig has not been dealt in below 27. 8s. per ton; for all affairs of any importance the rate asked is 27. 10s., and even 27. 12s. per ton.

NEW SYSTEM OF MINE VENTILATION.—That thorough and systematic ventilation is of the greatest importance is generally admitted in theory, but in practice it is to be feared that its value is not fully recognised as it should be; it does not, for example, receive the same amount of attention as such questions as a water supply or drainage works. It is of course very right that the highest value should be attached to these matters, but I think you will allow that ventilation is worthy of claiming equal attention. Mr. Teague, considering this, has on exhibition his patent ventilating appliances, which are suitable for ventilating collieries, mines, railway carriages, ships, &c. The principle most generally adopted for ventilating collieries and other mines is a fan used to cause a vacuum, and thus give motion to the poisonous atmosphere below. A model is exhibited showing this principle, and an improvement (patented by W. Teague, jun., C.E.) where the volume of air exhausted is largely increased without increasing the size of the fan or adding extra motive power; thus it will be seen that a more systematic ventilation may be gained at a cheaper rate than any other now in use. He also exhibits a full size ventilator for mines, where compressed air is available, and shows by working it the enormous amount of foul

air a small pressure of the compressed air will exhaust. At a pressure of 5 lbs. to the inch, it was shown that 92 cubic feet of compressed air exhausted 845 cubic feet of foul air. These ventilators are supplied with air from Hathorn's Reliance Air Compressor.

#### SOUBACK AND CATIR ALAN COMPANY.

The valuation of the ore from the company's mines was made by Mr. Moreau, of the Imperial Mint, by whom the ore was purchased, and varied from 9000l. to 63000l. per ton. The ore has also been valued as high as 87000l. per ton by Mr. Paul, and the company have samples of most of these at their offices. Subjoined is the certificate of Mr. Moreau:—

I, the undersigned, on the demand of Mr. F. Guarracino, declare the following:—In July, 1871, I received of the late H. H. Prince Mustapha Fazil Pasha a specimen of 5 oks (19 lbs.) of ore from Karahisar Charki (Souback and Catir Alan), which ore gave to the assay 2 per cent. gold and 10 per cent. of silver (sulphuret of argentiferous lead, telluride of gold, &c.). In September, 1871, I received from Mr. F. Guarracino 90 oks of the same ore, for which, after deducting for the assay, the Mint paid him 12,311 piastres, i.e., 282 fr. 53c. In August, 1872, I received from Mr. F. Guarracino about 7 oks of the same rough ore, for which, after the assay, the Mint paid 1778 piastres=408 fr. 94c. In December, 1874, I received from his late Highness Prince Mustapha Fazil Pasha, four sacks of ore from the same locality, weighing together 55 oks 250, which, after assay, were paid for at the rate of 278 piastres 2 paras the ok, or 153-01, or=3519 fr. 23c. In conclusion, the result of a mass of assays made by me on divers specimens from this rich vein shows that the gold has never been less than  $\frac{1}{2}$  per cent., and reaching 9-9 times that amount up to 2 (four) and a quarter per cent. As to the silver, it has varied from 7 to 22 per cent. in the said ore. In faith whereof we have signed.

Permanent Governor of the Mint and Member of the Council of Mines.  
(Signed) MORITZ.

\* The money value of this is from 9000l. to 63000l. per ton.

#### ORGANOS GOLD MINES.

It was mentioned in last week's *Mining Journal* that a report upon these mines had been made by Mr. Edward Gledhill, the superintendent of the Tolima Company's Frias Gold and Silver Mines, and that it tended to confirm the reports of the manager as to the large and profitable returns. The report, which is dated July 8, says: I have carefully perused the reports and particulars enclosed in Mr. Russell's letter of July 3 referring to the Organos Gold Mines, and in accordance with the request therein contained I beg to offer the following remarks upon the position and prospects of your company:—I may mention that sometime previously to the formation of the Organos Company practical miners had been sent to Frias to make certain trials, and from them I received most satisfactory accounts of the richness of the veins, their statements being to a large degree corroborated by the fine samples of gold quartz extracted and submitted for examination.

In July of last year I visited the mine, and made a full inspection as the limited amount of preliminary work then accomplished permitted, and found that what had been previously stated with regard to the intrinsic merits of the property was fully substantiated. At that period the Esperanza level of the Constanza Mine was in a most advanced state for inspection. In this drive whenever the vein was struck into during my examination samples of quartz containing free gold were invariably broken, and every miner knows the value and importance of an auriferous lode from which quartz carrying even the smallest amount of visible gold can, without an attempt at section, be taken. I likewise examined the Te Encontré lode, and made a full inspection as the limited amount of preliminary work then accomplished permitted, and found that what had been previously stated with regard to the intrinsic merits of the property was fully substantiated. At that period the Esperanza level of the Constanza Mine was in a most advanced state for inspection. In this drive whenever the vein was struck into during my examination samples of quartz containing free gold were invariably broken, and every miner knows the value and importance of an auriferous lode from which quartz carrying even the smallest amount of visible gold can, without an attempt at section, be taken.

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#### GOLD HILL MINE—ITS NEW PROGRESS AND DEVELOPMENT UNDER ENGLISH CAPITAL.

The little town of Gold Hill a year ago had few signs of animation or business life—in fact, it had all the appearance of a mining town—houses going to rack and ruin, the inhabitants listless, with an air indicative of anything except thrift. To-day the scene is changed. Houses have been and are now being repaired, stores painted, fresh goods on the shelves and the people bestir themselves in such manner as to impress the visitor with the fact of a general business revival.

About a year ago Mr. Wm. Treloar, was put in charge of the Gold Hill property, by the English syndicate, who purchased the mines. Mr. Treloar was just in from Brazil, South America, where for 15 years he had been conducting mining operations on the largest scale. His ability and thorough business capacity is unquestioned. Since taking charge of the works a new mill house, 84 by 54 and 44 ft. high; an amalgamation house, 40 by 40 and 34 ft. high, and over  $\frac{1}{2}$  mile of tram-road; so built as to command any part of the mine, and arranged so as to require no elevation or second handling of ore. They have laid out 1 mi. of piping to convey water from Bernhart shaft to the mill house, and from Flint shaft to supply fresh water to boiler. They have also built a large reservoir 100 by 60 ft. to hold water-supply. They have cleared the Bernhart shaft of water—380 ft. down—and are hoisting ores from stocks. They have sunk the new shaft Reservoir (so called because the lode was struck when excavating the foundation for the reservoir) 60 ft., and have cut 200 ft. of driving and levels, and are now stopping the backs on the lode—4 cubic feet of which is done. This lode when struck was small, but has been steadily improving as they sank. It is sulphurets imbedded in talcose and chlorite slates, which for several feet on either side of the vein are auriferous; sets of hands are kept in this shaft night and day sinking and stopping. The Miller shaft is also new—down 60 ft., and connects with whim-shaft 150 ft. distant. This is a promising lode which shows indications of opening finely—brown ore in slate bindings.

MACHINERY.—The mill house is supplied with a 20 stamp battery (arranged to accommodate as many more) and a Blake crusher—largest crusher made. These are run by a 100 horse-power engine. Engines, boilers, and pumps at Bernhart and Flint shafts, horse whims at the other shafts. CONCENTRATION AND AMALGAMATION.—The stamps fall about 80 strokes per minute, and the pulp passes through the finest mesh screen. Instead of the usual copper plates, they use about 24 ft. of blanketing, made for the purpose; each stamp head having its own line of blankets there is no quick used in mortars, but these blankets are taken up and washed frequently; that, however, depending on the grade of ore being milled—blankets next to the head being cleaned twice as often as those at extremity of line. Those blankets are washed in large tanks, which are covered by a wooden grating sufficiently open to allow the free passage of the concentrates to the floor of the tanks. From these tanks the concentrates are carried to amalgamation house (adjoins the mill house) and placed in one of four large revolving barrels. These are charged with 60 lbs. of quick each, together with 12 cubic feet of concentrates. These barrels are allowed to revolve 36 hours and are then dumped into hoppers just beneath, from which the sands are slowly washed by a small stream of water into the "axe." This axe is 17 ft. long, and is divided into three compartments; the first being charged with a large body of quick, and containing agitators fastened to block which forces the sands through the quick into next compartment. This next division is just like the first, except that it is not charged—the sands passing through allow any quick which may have escaped

from the first section to settle in the basin of the second; and so the third division catches what may have escaped from the second. These sands in passing out of the axe must again flow over 20 or more feet of blanketing, so that any floured amalgam which may have escaped the axe has there caught and saved. This is probably the most perfect system of concentration and amalgamation in this section. They clean up about every ten days—and show an average of from 87 to 847 per ton, according to the quality of ore run through the mill. Milling capacity is 40 tons each 24 hours—and they are working a force of 70 hands. Mr. E. B. Hambley is book-keeper and assayer—he has a well filled laboratory. Superintendent Treloar says that he expects to open the 950 foot shaft this summer. It is now full of water and will probably require several months to clear it, but it must be done as this shaft contains the large 10 ft. lode. Altogether the work is progressing satisfactorily and with a degree of substantiality calculated to inspire one with confidence in honest legitimate works.

—Carolina Watchman, Salisbury, N. C., July 6.

#### NEW QUEBRADA COMPANY.

The report of the directors, prepared for presentation at the meeting on Friday next, states that the production of mineral during 1881 was—Ore sent to the coast, 21,325 tons, against 17,200 tons previous year; to roasting floors, 12,100 tons, against 4087 tons; total ore produced, 33,425 tons, against 21,487 tons previous year; regulus to coast, 2939 tons, against 200 tons previous year. The average produce of metallic copper has proved slightly less than the board expected from the preliminary assays, thus—the ore has averaged 10½ per cent. of copper, dry assay, instead of 11 per cent.; the regulus averages 20 per cent. of copper, dry assay, instead of 21 per cent. The mines continue in course of steady development, satisfactory evidence of which is being furnished by the progressive increase in the output. Thus for the first five months of the present year the production of ore for export and for smelting purposes from Aroa Mine alone was 15,575 tons, as compared with 10,396 tons in the corresponding period last year, in addition to which Titara has yielded 830 tons of export ore between Feb. 1 and end of May. The average quality of export ore and regulus has also improved.

Following the practice of former years, and with a view to the permanence of the undertaking, exploratory work has been kept well in hand, whilst to provide the largely increased output of ore much attention has been bestowed on stopping operations so as to ensure the ore ground being dealt with in the most advantageous and miner-like manner. The reserves of ore at Aroa are estimated to be somewhat in excess of the previous year, and are set down at 127,300 tons, whilst the explorations at Titara have already opened up reserves at that mine estimated at 35,000 tons. In this latter mine a very valuable property has now been proved to exist, from which, as the levels are extended on the lode and new ground is opened up, there is reason to expect a large increase in production of mineral. The railway company have made a siding from their main line about 400 yards up the Titara Valley, over which the export ore is now being trammed, and a survey is in course of preparation, with the object, if practicable, of continuing the rails close up to the mine. Meantime the ore exposed thence for shipment, about 250 tons per month, is conveyed to the railway siding on donkeys at a cost of about 12s. per ton. The cost incurred in the past year at Titara and Holman level, amounting together to 2942½, 3s. 10d., is carried forward to next year, because the works have opened up and are intended to open up ore, none of which could be exported prior to the end of the year 1881. The large ore body already opened up at Titara (some 35,000 tons) shows the great prospective value of this expenditure, to say nothing of the ore at surface at Holman's discovery, neither of which are treated as assets in the accounts.

The smelting and reduction work department is becoming very extensive, and receives the attention which its importance demands. Much eventual benefit is expected to be derived from the Titara ore, which is associated with a silicate matrix calculated in an eminent degree to flux the ores from Aroa Mine. When railway communication has been established between Titara and the company's smelting works the benefit of this mixture should soon be apparent in the percentage of regulus produced. New furnaces are in course of erection, and a very valuable plant has been established, capable of treating about 25,000 tons of ore per annum, whilst No. 2 hydraulic engine, which has been delivered on the ground, will effectually guard against any failure of smelting operations from want of blast; this will, therefore, be maintained equal to the requirements of at least five furnaces.

The beneficial effect of the 20 years agreement with the Bolivar Railway Company agreement will become more apparent as the company's operations are progressively developed. The shareholders will remember that after setting aside a first charge to cover mines cost, debenture interest, &c., the proceeds of mineral sales are to be applied in payment of ships' freight, insurance, and all standing charges, the balance being carried to a fund which is applied as to the first 50,000l. to the railway company in satisfaction of their carriage contract, while the next 5000l. comes to the New Quebrada Company, and all further proceeds are to be divided equally between the two companies. In the past year the fund in question exceeded 50,000l., thus reaching a stage at which any further increase in the amount of net proceeds of sales will rapidly accumulate to the benefit of the mining company. The difference between the present arrangement and the terms of the original contract, under which 85,000l. per annum was guaranteed to the railway company is obvious, and is satisfactory when the present and prospective rate of progress is taken into account, because the development of revenue should correspond to that of production.

After deducting the amount applied to the first drawing of the company's Six per cent. debentures, which took place in September, 1880, the revenue account shows a balance of 10,344½, 12s. 10d.; to which has been added the amount brought forward from the previous year, 6495½, 4s. 6d.; together, 16,840½, 3s. 4d.; out of which the board recommends the payment of a dividend by warrants to be issued on Aug. 19 prox. of 3s. 6d. per share, equal to 3½ per cent. per annum, income-tax deducted; this will absorb 10,507½, 1s. 10d., leaving the balance to be carried forward to next year.

#### MARBELLA IRON ORE COMPANY.

The report to the shareholders for the half-year ending June 30 states that the accounts made up to that date show a profit on the half-year of 8795½, 8s. 4d.; add balance brought forward from last year 1158½, 5s. 11d., giving a total at credit of revenue account at the end of June of 9953½, 14s. 3d. Out of this sum the directors have resolved to pay an interim dividend at the rate of 5 per cent. per annum, or (say) 5s. per share, free of income tax, which will absorb 6250½, and to carry forward to credit of revenue account 3703½, 14s. 3d. In making up this statement the company's claim against the City of Glasgow Bank (in liquidation) has been valued at the capital sum, without any interest, although the liquidators have announced that principal and interest will be paid in full on Aug. 1.

The scarcity of shipping referred to in the report submitted to the last general meeting continued until lately, and has prevented our customers from removing their purchases as quickly as they would otherwise have done, thereby causing extra expense in stocking such large quantities of ore. Since the commencement of June, however, shipments have been on a larger scale, and everything now seems to point to plentiful and cheap freights throughout the next few months. The directors took advantage of the slack shipping season to carry out some extensive improvements to the inclined planes used for conveying the ore from the mines to the upper terminus of the railway. These improvements, which have all been debited direct to revenue, are fully completed, and are already effecting a saving in the cost of production. The quantity of ore raised has been the same as during the corresponding period of last year—200,000 tons, the actual time worked having been considerably curtailed by the alterations to the inclined plane mentioned, as well as by the broken weather which usually prevails in the south of Spain during the early part of the year. Recent advices from the mines, however, show a marked improvement, and, as was the case in 1881, the output during the second half of the year ought to exceed considerably that of the first half. With the exception of a small margin to meet contingencies the total estimated production of the mines for 1882 is already sold at paying prices, and the directors have every reason to believe that when the completed balance-sheet for the year is made up they will be able to recommend a satisfactory dividend, after setting apart a further sum to the reserve fund for depreciation.

In accordance with the wish expressed by the shareholders at the last general meeting one of your directors (Mr. J. C. Wakefield) paid a visit to Marbella in April, and he has expressed himself to his colleagues as extremely pleased with what he saw there, both as regards the present state and future prospects of the works and the careful management of the company's business in Spain.

GOLD MINING IN VICTORIA.—The reports of the Mining Surveyors and Registrars for the quarter ended March 31, with a copy of which we have been favoured by the Secretary for Mines and Water Supply—Major COUCHMAN—shows that 37,716 miners were employed; of these 13,954 Europeans and 7469 Chinese were engaged in alluvial mining, and 16,197 Europeans and 96 Chinese in quartz mining. The approximate value of the mining plant in use was 1,894,596l. The total quantities of gold got during the quarter was 83,497½ ozs. from alluviums, and 106,329 ozs. from quartz reefs=189,826½ ozs. The export of gold as returned to the Commissioner of Trade and Customs was 64,024 ozs.; this is exclusive of 958,816½ gold specie exported. The quartz crushed, 223,839½ tons, yielding 91,294½ ozs. of gold, or at the rate of 8 dwts. 3.77 grs. The quartz tailings and mullock treated, 3714 tons, yielded 372½ ozs. of gold, or at the rate of 2 dwts. 0.12 grs per ton. The pyrites and blanketing operated upon, 1216½ tons, yielded 2704½ ozs., or at the rate of 2 ozs. 4 dwts. 11.32 grs. per ton.

CASSELL'S PUBLICATIONS.—Science for All, Part 57, contains an excellent account of Warren de la Rue's Great Voltaic Battery, by Dr. R. J. Mann, and articles on the Heart and the Blood, by Dr. Andrew Wilson, of Glasgow; on a Beehive, by Dr. F. Buchanan White, of Aberdeen; on Seeing by Telegraph, a careful and lucid paper, by Mr. H. Trueman Wood, B.A., Secretary of the Society of Arts; on a Bar of Soap, by Professor Barff; and on the Measurement of Molecules, by Professor Cooke, of Harvard University, U.S. Canon Farrar's Life and Work of St. Paul, Part 5, contains many interesting remarks upon clean and unclean food, and he gives Chrysostom's account of making all things pure, yet it is beyond question that all accepted as kosher by the Jews is always more wholesome than trifa, and it would seem the preservation of health had, and has more to do with the rules and their acknowledgment, and in this country, at least, there is no fear of the butcher who has the



Admia becoming either a monopolist or a tyrant, as competition would soon be sanctioned by the rabbinical authorities. A beautiful engraving of the Approach of Antioch is given at the head of the section relating to that city. Knight's Dictionary of Mechanics extends from Sheet Metal Drawing Press to Signal.

### Registration of New Companies.

The following joint-stock companies have been duly registered:—

**THE BRICHTLINGSEA, WYVENHOE, AND EAST DONEYLAND CO-OPERATIVE OYSTER FISHERY COMPANY (Limited).**—Capital 20,000*l.*, in shares of 5*l.* To acquire and use certain rights adjacent to the Rivers Blackwater and Colne. The subscribers are—A. Pertwee, Brichtlingsea, 10; J. Deans, Brichtlingsea, 2; G. Harvey, Wyvenhoe, 10; D. Martin, East Doneyland, 5; G. H. Peggs, Brichtlingsea, 20; J. E. Richardson, Brichtlingsea, 10; H. Minter, Brichtlingsea, 20.

**THE WENHAM LAKE ICE COMPANY (Limited).**—Capital 20,000*l.*, in shares of 5*l.* To take over and carry on an established business. The subscribers (who take one share each) are—T. Barney, Edgbaston; C. H. A. Price, 21, Cavendish-road, West; W. Seddon, Wanderers' Club; F. D. Farmage, 24, Essex-street; B. H. Van Tromp, 16, Essex-street; R. Barney, Teddington; W. H. Barney, Bishopstoke.

**THE BRISTOL COMMERCIAL UNION BANK (Limited).**—Capital 250,000*l.*, in shares of 20*l.* The subscribers (who take twenty shares each) are—S. Goldberg, Gloucester; S. Blaiberg, Cardiff; S. Freedman, Cardiff; R. Moore, Clifton; W. Cohen, Highbury New Park; P. Freedman, Bristol; A. Fappert, Greenlanes.

**THE ANGLO-JUTLAND LAND COMPANY (Limited).**—Capital 100,000*l.*, in shares of 10*l.* The usual business of a land company in connection with Denmark or elsewhere. The subscribers (who take one share each) are—H. G. Norris, Clapham; H. E. Noad, Lewisham; E. Packman, 28, New Bridge-street; A. Stein, 17, Great Winchester-street; J. Thompson, 4, Great Queen-street; J. Ferguson, Highbury; H. Waters, 54, New Broad-street.

**THE ELECTRICAL APPLIANCES SYNDICATE (Limited).**—Capital 5000*l.*, in shares of 10*l.* The ordinary business of mechanical and electrical engineers. The subscribers (who take one share each) are—W. Hannam, 99, Gresham House; R. Jenkin, Vauxhall; G. S. Ullathorne, Hammersmith; S. Crosse, Brixton; R. Soutter, Richmond; H. T. Turner, 106, Vauxhall Bridge-road; H. Pouche, 3, Wilming-ton-square.

**THE TRAMWAY LOCOMOTIVE AND MARINE ENGINE-WORKS COMPANY (Limited).**—Capital 100,000*l.*, in shares of 5*l.* To acquire, certain works, at Whitchurch, near Cardiff, and to carry on the business connected therewith. The subscribers (who take one share each) are—S. Hern, Cardiff; D. Watson, Cardiff; F. S. Sharpe, Cardiff; H. Greeve, 3, Gracechurch-street; W. McCulloch, 17, Gresham House; B. Green, Worcester; C. H. Noel, Cardiff.

**THE DUTCH GUIANA GOLD MINING COMPANY (Limited).**—Capital 100,000*l.*, in shares of 2*l.* To purchase or otherwise acquire from the Saramacca Pioneer Gold Mining Company (Limited) their lease and rights to the tracts of land in the district of Saramacca river, in Surinam, Dutch Guiana, and towards that end to carry into effect a certain agreement for the purchase of the lease of an estate consisting of 3000 hectares, and other tracts of 720, 250, and 500 hectares respectively, the consideration of sale being 40,000*l.*—33,332*l.* in shares and the balance in cash, the vendors being the promoters of this company. To carry on the usual business and operations of gold mining. The subscribers (who take one share each) are—E. Coleman, 84, Leadenhall-street, merchant; L. Levy, 31, Throgmorton-street, gentleman; A. S. Wildy, 3, Threadneedle-street, stockbroker; W. E. Percy, 4A, Cheapside, accountant; G. A. Phillips, St. John's, gentleman; M. B. Isaac, 35, Leicester-square, merchant; J. Salomon, 79, Linden-gardens, gentleman. The number of directors must not be less than four or more than seven.

**THE AUSTRALASIAN FRESH MEAT COMPANY (Limited).**—Capital 200,000*l.*, in shares of 5*l.* The business of preservers and importers of fresh or tinned meat, game, fish, &c. The subscribers are—C. Rowman, 9, Fenchurch-avenue, 100; H. P. N. Laurie, 7, Stratton-street, 100; T. B. Hall, Rock Ferry, 100; S. M. S. Mackey, 7, Loth-bury, 100; R. C. Antribus, 27, Eccleston-square, 100; R. C. Want, 34, Clement's-lane, 1; P. Tarbutt, 46, Queen Victoria-street, 1.

**THE RAKE HEAD MILL COMPANY (Limited).**—Capital 30,000*l.*, in shares of 50*l.* To acquire mill and weaving sheds, &c., at Burnley, selling or otherwise disposing of same. The subscribers are—H. Racewell, Burnley, 297; A. Racewell, Burnley, 1; B. Racewell, Burnley, 1; A. Racewell, Burnley, 1; J. Bulcock, Burnley, 297; J. Bulcock, Burnley, 1; J. Bulcock, Burnley, 1; J. Bulcock, Burnley, 1; H. Bulcock, Burnley, 1.

**THE BLAENAU FESTINOG CORN AND FLOUR MILL COMPANY (Limited).**—Capital 10,000*l.*, in shares of 10*l.* To acquire and work certain mills. The subscribers (who take one share each) are—T. Walkin, Blaenau; G. H. Ellis, Blaenau; H. T. Owen, Blaenau; R. Roberts, Blaenau; W. B. Lloyd, Blaenau; W. R. Williams, Portmadoc; H. Roberts, Blaenau.

**ILFORD LAND COMPANY (Limited).**—Capital 150,000*l.*, in shares of 10*l.* To acquire a freehold and carry on the usual business of a land company. The subscribers (who take one share each) are—P. J. W. Miles, Bristol; A. Torkington, Highbury New Park; J. Sumley, 8, London-street; C. S. Dawson, 25, Emperor's Gate; S. Lovelock, 19, Coleman-street; T. White, 61, Mark-lane; C. Campbell, 79, Cadogan-place.

**BRAZILIAN PUBLIC WORKS CONSTRUCTION COMPANY (Limited).**—Capital 50,000*l.*, in shares of 10*l.* To contract for the construction of public or private works of every description there or elsewhere. The subscribers (who take one share each) are—G. G. L. Macpherson, 39, Lombard-street; L. Francatelli, Clapham; J. Walsh, 25, St. Luke's-road; K. Pamo, 18, Queen Victoria-street; S. S. Malcolm, Reform Club; S. Samuels, 75, Old Broad-street; A. Stunt, Brockley Rise.

**THE GLADSTONE BUILDINGS COMPANY (Limited).**—Capital 25,000*l.*, in shares of 5*l.* A building society's business in all branches. The subscribers are—R. T. Edon, Sheffield, 50; B. Langley, Sheffield, 100; H. J. Wilson, Sheffield, 100; W. Cloyne, Sheffield, 20; J. C. Clegg, Sheffield, 25; J. E. Sharrow, Sheffield, 50; J. D. Leader, Sheffield, 50; S. O. Heatherleigh, Sheffield, 40.

**THE CANADA NORTH-WEST LAND COMPANY (Limited).**—Capital 3,000,000*l.*, in shares of 10*l.* To carry out a contract with the Canadian Pacific Railway for the acquisition of 5,000,000 acres of land. The subscribers (who take 10 shares each) are—Duke of Manchester, Kimbolton; Sir R. Blennerhassett, 5, St. James's-place; F. H. Evans, Orpington; B. Macleod, 10, Hobart-place; J. Rae, 4, Addison Gardens; W. B. Scaith, Toronto; C. Harrison, 17, Lincoln's Inn Fields.

**RIDOUT AND COMPANY (Limited).**—Capital 10,000*l.*, in shares of 1*l.* The trades of miners, smelters, engineers, coke, brick, tile, and cement manufacturers, &c. The subscribers (who take one share each) are—T. J. Porter, Stoke Newington; C. Cooper, Leyton; W. G. Card, Wandsworth; W. H. Wood, 111, Cheapside; G. Woodbridge, 1, Henrietta-street; W. Byrne, Stoke Newington; H. Hewett, 22, Cambridge-road.

**THE STATEN CHEMICAL COMPANY (Limited).**—Capital 50,000*l.*, in shares of 10*l.* To acquire, take over, and carry on a business in the State of New Jersey, United States. The subscribers (who take one share each) are—W. W. Hamond, Jarrow-on-Tyne; J. Coward, Newcastle-on-Tyne; G. A. Burchell, Newcastle-on-Tyne; T. Crawford, Newcastle-on-Tyne; G. B. Monkborne, Newcastle-on-Tyne; J. B. Lowe, Walker-on-Tyne; W. R. Low, Walker-on-Tyne.

**THE CHESHIRE BANKING COMPANY (Limited).**—Capital 1,000,000*l.*, in shares of 20*l.* The subscribers (who take one share each) are—J. M. Fletcher, Altrincham; J. Beresford, Altrincham; C. Pitt, Manchester; W. S. Chenhall, The Crescent; W. H. Webb, Blackheath; W. Brain, Upper Tooting; J. Allen, Lavender Hill.

**SOUTH-EAST ANGLIAN RABBIT WARREN, GAME, AND POULTRY FARM COMPANY (Limited).**—Capital 20,000*l.*, in shares of 1*l.* To carry on at Hollesley, Suffolk, a warren and poultry, &c., farm. The subscribers are—T. C. King, 4, Serjeant's Inn, 5; G. P. Jay, Brook-ley, 5; F. Clement, 39, Bond-street, 2; L. R. C. Danet, 36, Corner-

street, 2; G. H. Hall, 8, Warwick-court, 10; S. Morley, Lewisham 20; T. B. Newton, Gray's Inn Chambers; C. Towse, Fishmongers Hall, 5.

**THE PENINSULA COPPER COMPANY (Limited).**—Capital 250,000*l.*, in shares of 10*l.* To acquire by purchase certain copper, sulphur, or cupreous pyrites mines, known as the Pena del Hierro, Province Huelvas, Spain, and extensive rights of mining held therewith, together with the copper extraction, smelting, refining, and manufacturing works, buildings, machinery, plant, stores, tools, &c., and also to acquire certain mining lands, grants, or concessions known as El Complemento, contiguous to the Pena del Hierro Mines, for the purpose of carrying on mining operations in all branches. The subscribers (who take one share each) are—Firmen, 31, Lombard-street, merchant; T. Delrez, Paris, C.E.; H. Kubler, 35, Gaisford-street, clerk; F. Idle, 10, Sisters Avenue, clerk; H. Miles, Waltham-stow, clerk; J. Murray, Islington, gentleman; J. N. Hill, 17, Tavistock-road, C.E. The first directors are—Messrs. Firmin, Delrez, and J. M. Walker, of 9½, Old Broad-street; the number not to be less than three or more than seven, and the remuneration, to be divided, is fixed at 750*l.* per annum, subject to future increase at the discretion of the shareholders.

**F. SIEMENS GLASS COMPANY (Limited).**—Capital 200,000*l.*, in shares of 10*l.*—To manufacture, sell, and deal in glass and articles made of glass or used in the manufacture of such. The subscribers are—J. C. Wakefield, Reform Club, 100; M. H. Spielman, 16, Porchester-terrace, 1; H. L. Bucknall, Victoria Mansions, 5; B. C. Molloy, Temple, 1; R. W. B. Sanderson, Manchester, 1; E. J. Emanuel, 15, Austin Friars, 1; R. W. Allen, Camberwell, 1.

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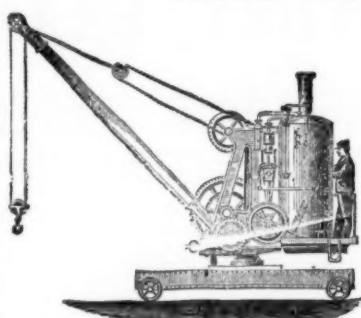
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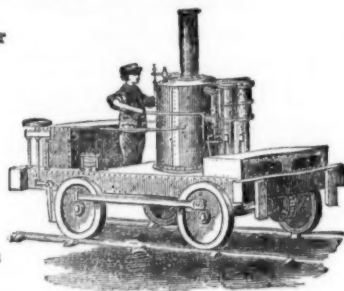
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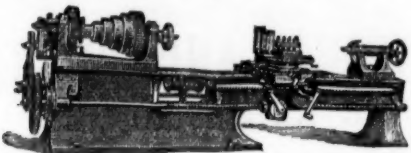
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The Machine can be seen at work daily at the Brickworks of the Patentees, JOSEPH FIRTH AND SONS, WEBSTER HILL, DEWSBURY, and CROWBURY BRICK WORKS, SUSSEX; as also their Patent Gas Kiln for Burning Bricks, which possesses the following amongst other advantages, viz.:—Economy in Fuel, Rapidity and Quality of Work, even Distribution of Heat, and Total Consumption of Smoke.



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 A DELICIOUS BEVERAGE AND TONIC.

IMPORTANT TESTIMONIAL.

Queen's Crescent, Haverstock Hill,

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DEAR SIR,—Some time since, being greatly fatigued with overwork and long hours at business, my health (being naturally delicate) became very indifferent. I lost all energy, strength, and appetite, and was so weak as to be scarcely able to walk.

As you are aware, I sent for a dozen of your Extract of Meat and Malt Wine, which, in a few days, pulled me up marvellously. Three or four glasses of it daily have quite altered and restored me to better health than ever, "without the assistance of a doctor."

I am now giving it to my son, twelve years of age, whom we have always thought consumptive, and from a puny ailing boy he seems to be fast growing into a strong healthy lad.

Enclosed you have cheque. Please send me two dozen of the "Extract." With thanks for your prompt attention to my last.

I am Sir, yours truly,

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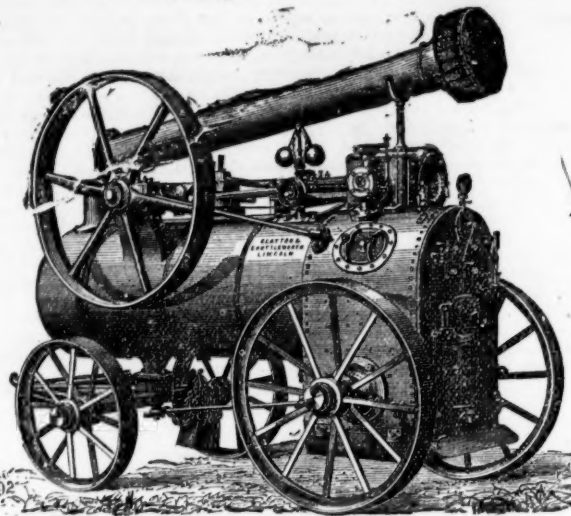
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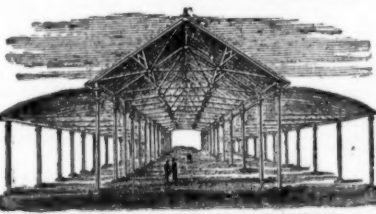
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Special Polishing Machinery and Materials.

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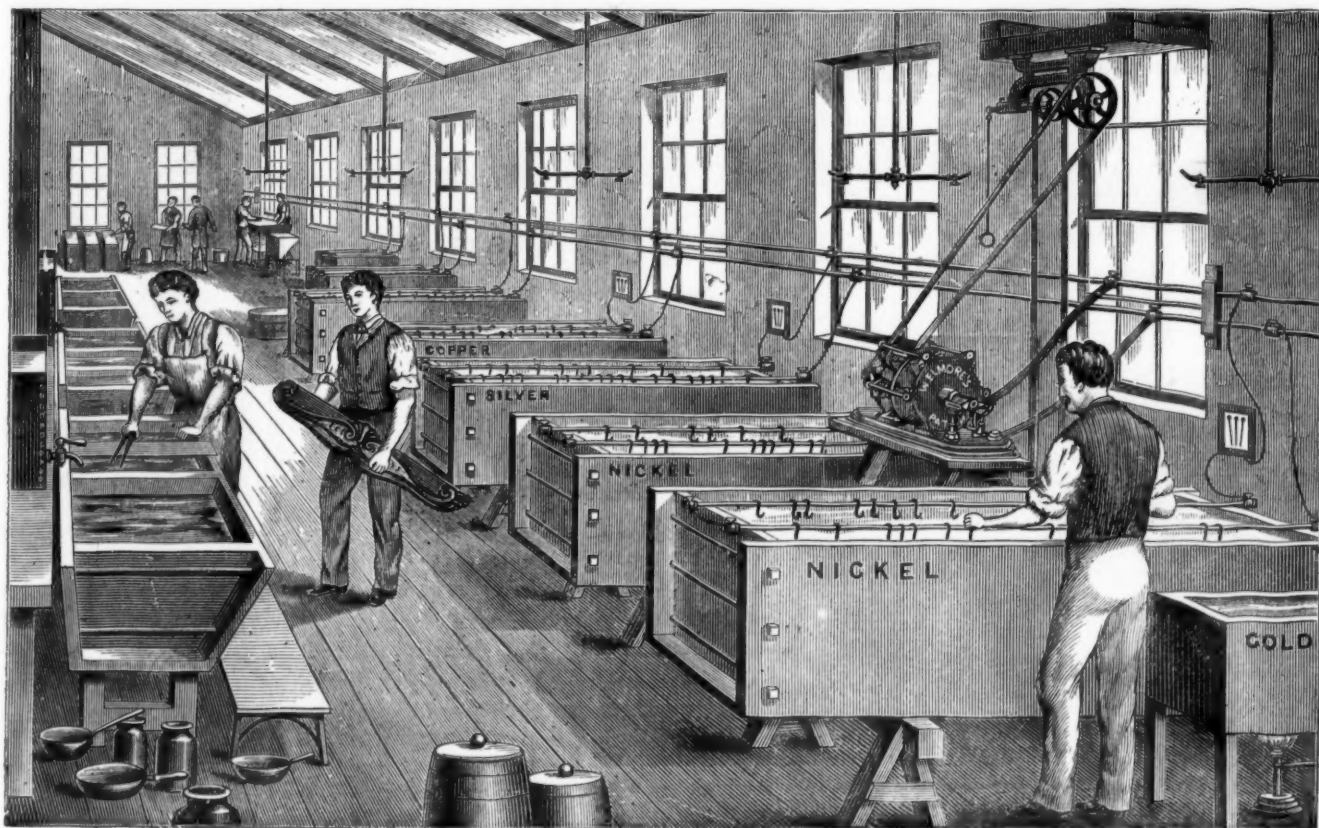
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From the “**LONDON MINING JOURNAL**.”

“The new ‘Elmore’ Dynamo-Electric Machine can be seen in operation in London, and is considered one of the most wonderful scientific apparatus which has yet been brought before the public; it should be inspected by all who are interested in any kind of metallurgical operations.”

“Mr. ELMORE has just received two pieces of ordnance from Her Majesty’s Works at Chatham, with an order to nickel-plate the same, together with the carriages upon which they are mounted. Mr. Elmore has done similar work for the Government on previous occasions, and it will be remembered that the screw propellers used on the torpedo boats were nickel-plated by him. The ‘Elmore’ Dynamo-Electric Machines and complete electro-plating outfits have been supplied to Government Departments at home and abroad.”

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ART METAL DEPOSITING WORKS,  
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From the **NICKEL AND SILVER PLATING WORKS**,  
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From the **LONDON NICKEL PLATING COMPANY**.  
“We have much pleasure in expressing our entire satisfaction with the nickel-plating solution, anodes, and Dynamo Machine that you have supplied us with.”

From the **DYNAMO-ELECTRIC PLATING WORKS**,  
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“The quality of the nickel solutions and anodes at these works, which were supplied by you, is most satisfactory in every way. The Dynamo Machine also works excellently, and has given no trouble whatever since it has been started.”

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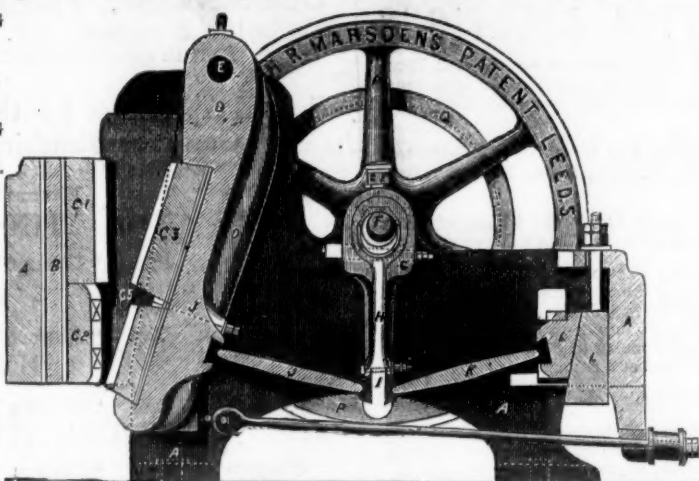
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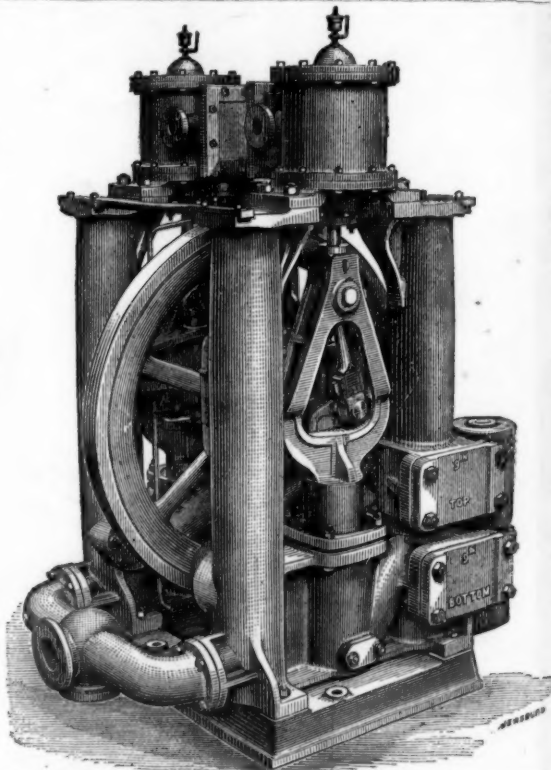
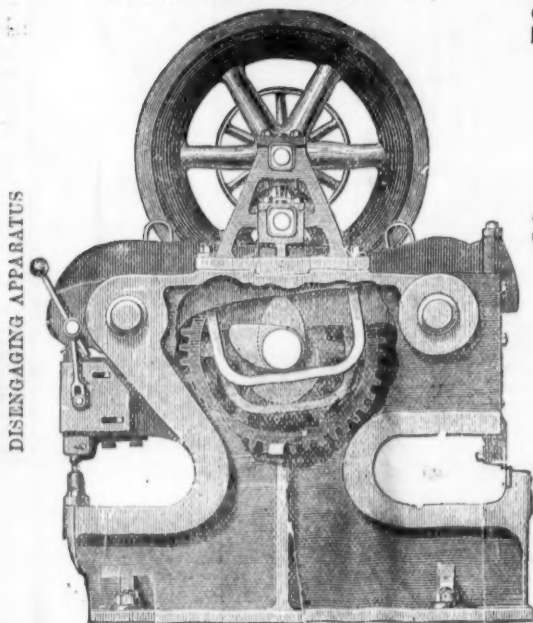
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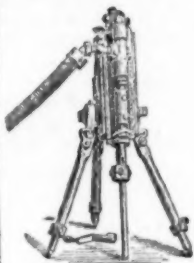


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